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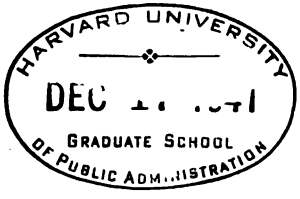

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FOURTEENTH REPORT

ON

INSPECTION

OF

WEIGHTS, MEASURES AND GAS,

BEING

SUPPLEMENT No. II TO THE REPORT

OF THE

DEPARTMENT OF INLAND REVENUE

1888.

Printed by Order of Parliament.

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REPORT

OF THE

COMMISSIONER OF INLAND REVENUE

ON THE

INSPECTION OF WEIGHTS AND MEASURES, AND GAS.

To the Honorable
The Minister of Inland Revenue.

SIR,—I have the honor to submit herewith my report on the Inspection of Weights and Measures and Gas, with the usual statements in relation thereto, for the year ended 30th June, 1888.

1st. The total revenue collected during the year for the Inspection of Weights and Measures was thirty-seven thousand eight hundred and eighty-five dollars and thirty-nine cents ($37,885.39), as compared with thirty-four thousand three hundred and ninety-six dollars and fifty-one cents ($34,396.51) collected during the year ended 30th June, 1887.

The total expenses were sixty-seven thousand four hundred and seventy dollars and sixty-eight cents ($67,470.68) as against sixty-seven thousand seven hundred and thirty nine dollars and sixty cents ($67,739.60) expended during the year ended 30th June, 1887.

2. Appendix "A" gives a summary statement of the expenditure and receipts of each inspection division.

Hamilton, London, Toronto and Montreal are the only divisions in which the receipts exceed the cost of collection.

3. In Appendices "B" and "C" will be found a detailed statement of weights and measures and weighing machines presented for verification, verified and rejected during the year.

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The number of all descriptions may be summarily stated as follows:—

——	Presented.	Verified.	Rejected.	Percentage of Rejections.
Weights, Dominion	80,232	79,886	346	0·43
Measures of capacity, Dominion	91,577	91,476	101	0·11
Lineal measures	6,333	6,273	60	0·90
Balances, equal arms	12,405	12,261	144	1·16
do steelyards	3,900	3,879	21	0·53
do platform scales	20,945	20,695	250	1·19
Irregular weights	4,891	4,860	31	0·63
do measures	252	252	.....	.....
Troy weights	174	167	7	4·00

4. Since the date of my last report, Mr. Johnstone, Chief Inspector Standards Branch, has visited and inspected the offices, books, standards, &c., of the Divisions of Windsor, London, Hamilton, Toronto, Belleville, Orillia, Kingston, Ottawa, Montreal, Three Rivers, Sherbrooke, Quebec, St. John, Fredericton, King's, Halifax, Yarmouth, Cape Breton and Charlottetown; and has also carefully verified and stamped all the 50 lbs. iron standards of weight in the Divisions of Charlottetown, Cape Breton, Halifax, Yarmouth, St. John, King's, Fredericton, Quebec, Three Rivers, Sherbrooke, Montreal and Ottawa.

There are at present in the Department a great number of "local" standards of various kinds which require to be carefully cleaned, repaired, adjusted and verified before they can be re-issued to be used as standards by our inspectors and their assistants, and as we have no one at present attached to this branch of the service capable of doing such work, I would again urge upon you the necessity of immediately securing the services of a first-class mechanic, one thoroughly and practically skilled in scale making, in all its details, to make the necessary repairs and adjustments.

INSPECTION OF GAS.

5. The total revenue collected during the year for the inspection of gas and gas meters was six thousand nine hundred and forty-six dollars and sixty-five cents ($6,946.65) as compared with six thousand six hundred and fifty-four dollars and forty cents ($6,654.40) collected during the year 1886-87.

The total expenses were twenty thousand eight hundred and ninety-four dollars and ninety-eight cents ($20,894.98) as against seventeen thousand seven hundred and ten dollars and eleven cents ($17,710.11) during the year 1886-87.

6. The details of the inspection of gas meters will be found in Appendix "G" The result, as compared with the previous year, may be stated as follows:—

	Presented for verification	Finally rejected.
1886-87	7,538	179
1887-88	7,945	158

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Illuminating Power.

7. A statement of the illuminating power and purity of gas inspected during the year will be found in Appendix " F ".

The illuminating power, where inspection has been made, has been as follows:--

Place.	Number of tests made.	Number of times below standard.	Place.	Number of tests made.	Number of times below standard.
Belleville	40	6	St. Thomas	12	1
Brockville	4		Toronto	106	2
Brantford	11		Windsor	12	
Chatham	12		Woodstock	12	
Cobourg	11		Montreal	104	
Cornwall	12		Quebec	11	
Dundas	12		Sherbrooke	12	
Guelph	12		Three Rivers	52	12
Hamilton	12	1	Chatham, N.B	24	14
Ingersoll	12		Fredericton	11	
Kingston	49		St. John	84	1
Lindsay	11		Moncton	21	
London	38		Halifax	24	
Napanee			Pictou	12	
Ottawa	67	44	Yarmouth	12	
Peterborough	11		Charlottetown	38	
Port Hope	11		Winnipeg	12	
Stratford	9		Victoria, B.C.	36	
St. Catharines	11				

Your especial attention is called to the preceding table, from which it will be seen that, at the same places to which attention was called in my last year's report, namely, Ottawa, Three Rivers, and Chatham, N.B., the illuminating power of the gas sold to consumers was frequently found to be below the standard established by-law.

In my last year's report 56 per cent. of Ottawa's tests were below the standard this year's report shows 66 per cent. of tests below. Three Rivers' last year's record was 40 per cent. of tests below, and this year's 23 per cent. below standard. Chatham's last year's record was 62 per cent. of tests below, and this year's 58 per cent. below standard.

From the foregoing it will be seen that at Chatham and Three Rivers, a shade of improvement has been manifested, but in Ottawa the case has been aggravated, as shown by an additional 10 per cent. of the tests being below the standard.

In order to protect the interests of consumers and put a stop to such utter disregard of the law as has been shown by some of our producers, I would respectfully urge the necessity of amending the Gas Inspection Act in such a manner as to make producers liable to a penalty for failure to keep the illuminating power of their gas up to the legal standard.

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Tests for Purity.

8. Gas has only been tested regularly for sulphur and ammonia at Ottawa, Toronto, Montreal, Quebec, St. John and Halifax.

9. In Ottawa the total number of tests made was:—

For sulphur, 35 tests. Never in excess of quantity allowed by law.
For ammonia, 34 tests. Never in excess of quantity allowed by law.
For sulphuretted hydrogen, 66 tests. Never present.

10. In Toronto:—

For sulphur, 24 tests. Never in excess.
For ammonia, 24 tests. Never in excess.
For sulphuretted hydrogen, 107 tests. Never present.

11. In Montreal:—

For sulphur, 24 tests. 17 times in excess.
For ammonia, 24 tests. Never in excess.
For sulphuretted hydrogen, 104 tests. Never present.

12. In Quebec:—

For sulphur, 24 tests. Never in excess.
For ammonia, 24 tests. Never in excess.
For sulphuretted hydrogen, 22 tests. Never present.

13. In St. John, N.B.:—

For sulphur, 48 tests. Once in excess.
For ammonia, 48 tests. Once in excess.
For sulphuretted hydrogen, 84 tests. Never present.

14. In Halifax:—

For sulphur, 23 tests. Four times in excess.
For ammonia, 23 tests. Never in excess.
For sulphuretted hydrogen, 24 tests. Never present.

15. In addition to the foregoing, tests for sulphuretted hydrogen have been made at each of the following places where illuminating power has been tested, with the following results:—

Place.	Number of Tests.	Present.	Place.	Number of Tests.	Present.
Belleville	40		Stratford	12	
Brantford	11		St. Catharines	11	
Brockville	4		St. Thomas	12	
Chatham	12		Windsor	12	
Cobourg	11		Woodstock	12	
Cornwall	12		Sherbrooke	12	
Dundas	12		Three Rivers	52	
Guelph	12		Chatham, N.B.	24	
Hamilton	12		Fredericton	12	3
Ingersoll	12		Moncton	21	
Kingston	49		Pictou	12	
Lindsay	11		Yarmouth	12	
London	38		Charlottetown	38	
Napanee			Winnipeg	12	
Peterborough	11		Victoria	36	
Port Hope	11				

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REPORT OF PROGRESS.

16. Since the date of my last report, inspection of gas and gas meters has been regularly established at Brockville.

Inspection standards and apparatus are now completed and in readiness for the fitting up of gas inspection offices at Barrie, Sarnia, Listowel and Napanee.

Gas inspection offices are asked for at Galt, Berlin and Owen Sound.

Since date of my last report the gas inspection offices at Windsor, Chatham, London, St. Thomas, Ingersoll, Woodstock, Stratford, Guelph, Dundas, Brantford, Hamilton, St. Catharines, Toronto, Belleville, Kingston, Cornwall, Montreal, Sherbrooke, Three Rivers, Quebec, St. John, N.B., Fredericton, Moncton, Halifax, Yarmouth and Charlottetown have been visited and inspected by Mr. Johnstone, Chief Inspector Standards Branch, who reports having found everything in connection with the inspection of gas working satisfactorily alike to producers and consumers.

I have the honor to be, Sir,

Your obedient servant,

E. MIALL,

Commissioner.

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APPENDIX A.

STATEMENT of Expenditure and Receipts for Year ended 30th June, 1888.

Inspection Divisions.	Inspectors and Assistant Inspectors.	Expenditure.							Receipts.
		Salaries.	Seizure Expenses.	Special Assistance.	Rent	Travelling Expenses.	Sundries.	Total.	
Province of Ontario.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Belleville	Wm. Johnson Thomas Slattery Samuel Irwin	2,100 00	19 50	.....	75 00	747 72	245 94	3,188 16	1,213 48
Hamilton	T. H. McKenzie John McDonald W. G. McDonnell Thos. Beattie C. E. S. Black James D. Park	4,475 32	.....	.....	.....	724 06	257 93	5,457 31	8,355 43
Kingston	J. A. Macdonald W. W Griffin Wm. Whitteker	2,100 00	.....	.....	90 00	496 00	221 33	2,907 33	1,755 71
London	Jas. Egan D. Coughlin	1,988 70	.....	270 79	.....	785 92	154 83	3,200 24	3,433 14
Orillia	G. I. Bolster John Lyons	1,700 00	.....	6 50	67 92	531 17	90 68	2,396 27	998 93
Ottawa	A. Code M. Gorman John Cosgrove Pat. Lynch	2.900 00	.....	.....	287 50	529 50	178 89	3,895 89	1,085 49
Toronto	Harry Piper R. J. Wright D. Kinnee D. Flynn R. Milligan	3,200 00	.....	.....	.....	601 45	188 10	3,989 55	4,656 59

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APPENDIX A—*Continued.*

STATEMENT of Expenditure and Receipts for Year ended 30th June, 1888—*Continued.*

Inspection Divisions.	Inspectors and Assistant Inspectors.	Expenditure.							Receipts.
		Salaries.	Seizure Expenses.	Special Assistance.	Rent	Travelling Expenses.	Sundries.	Total.	
Province of Ontario—Concluded.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Windsor	W. J. Hayward A. Marentette	1,600 00	2 75			896 50	125 58	2,624 83	1,331 71
	District Inspector					40 00		40 00	
		20,064 02	22 25	277 29	520 42	5,352 32	1,463 28	27,699 58	22,830 48
Province of Quebec.									
Montreal	J. O. Chalut J. R. Urquhart J. T. Dorion S. Dillon J. A. Daoust F. L. Desrivières	4,850 00	9 00			428 37	261 65	5,549 02	6,349 99
Quebec	P. E. Bourassa W. Adams H. Simard J. B. Petit F. X. Chabot M. J. Kelly	3,408 35			41 00	1,274 89	232 32	56 56	2,779 76
Sherbrooke	E. Clark J. U. Richard P. Smith Jos. S. Baker	1,950 00				418 74	68 78	2,437 47	636 61

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Three Rivers	J. A. Olivier R. Kittson J. J. Provost P. C. A. Bruneau	1,866 64			25 00	242 27	50 28	2,184 19	980 45
		12,074 99	9 00		66 00	2,364 27	612 98	15,127 24	10,746 81
Province of New Brunswick.									
Fredericton	E. C. Freeze Geo. Bois	1,600 00				215 83	26 37	1,842 20	279 32
King's	W B. Scovil David Richard	1,300 00				314 76	27 42	1,642 18	479 62
St John	J. B. Wilmot E. Cowan	1,800 00				160 11	20 75	1,980 86	711 27
		4,700 00				690 70	74 54	5,465 24	1,470 21
Province of Nova Scotia.									
Cape Breton	L. E. Tremaine	800 00			35 00	13 15	45 30	893 45	60 33
Halifax	R. M. King J. B. Ryan	1,033 30		100 00	222 50	38 23	172 18	1,566 21	511 70
Pictou	J. McKay	983 32				60 46	50 32	1,094 10	156 50
Yarmouth	Chas. Allison	1,000 00			50 63	75 61	42 04	1,168 28	268 39
	District Inspector					135 75	2 30	138 05	
		3,816 62		100 00	308 13	323 20	312 14	4,860 09	996 92
Province of Prince Edward Island.									
Charlottetown	James Reddin	1,000 00			56 41	195 03	56 58	1,308 05	348 74

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APPENDIX A—*Concluded.*

STATEMENT of Expenditure and Receipts for Year ended 30th June, 1888—*Concluded.*

Inspection Divisions.	Inspectors and Assistant Inspectors.	Expenditure.							Receipts.
		Salaries.	Seizure Expenses.	Special Assistance.	Rent.	Travelling Expenses.	Sundries.	Total.	
Province of Manitoba.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Winnipeg	R. T. Huggard W. Cowley J. W. Costello H. E. Ross R. J. M. Girdlestone	3,464 98	.....	.....	144 00	522 15	88 15	4,219 28	1,426 53
Province of British Columbia.									
Victoria	Richard Jones	950 00	.....	.....	210 00	12 25	95 50	1,267 75	65 70

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RECAPITULATION.

Ontario	20,064 02	22 25	277 29	530 42	5,352 32	1,463 28	27,699 58	22,830 48
Quebec	12,074 99	9 00	.....	66 00	2,364 27	612 98	15,127 24	10,746 81
New Brunswick	4,700 00	.....	.....	.....	690 70	74 54	5,465 24	1,470 21
Nova Scotia	3,816 62	.....	100 00	308 13	323 20	312 14	4,860 09	996 92
Prince Edward Island	1,000 00	.....	.....	56 44	195 03	56 58	1,308 05	348 [illegible]
Manitoba	3,464 98	.....	.....	144 00	522 15	88 15	4,219 28	1 426 53
British Columbia	950 00	.....	.....	210 00	12 25	95 50	1,267 75	65 70
General Contingencies	2,800 00	.....	.....	.....	687 10	2,268 67	5,755 77	.....
Queen's Printer	.....	.....	.....	.....	.....	958 93	958 93	.....
Stationery Office	.....	.....	.....	.....	.....	784 75	784 75	.....
Lithographing	.....	.....	.....	.....	.....	24 00	24 00	.....
Grand Total	48,870 61	31 25	377 29	1,304 99	10,147 02	6,739 52	67,470 68	37,885 39

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APPENDIX

RETURN of the Weights and Measures Inspected during the Fiscal Year tion, Verified and Rejected, for each Division, for

NAME OF INSPECTION OFFICE.	WEIGHTS.						IRREGULAR WEIGHTS.		
	Dominion.			Troy.					
	Brought for Verification.	Verified.	Finally Rejected.	Brought for Verification.	Verified.	Finally Rejected.	Brought for Verification.	Verified.	Finally Rejected.
Ontario.									
Belleville	1440	1440	.....	.....	.....	.....	120	120	.....
Hamilton	17791	17791	.....	.....	.....	.....	273	273	.....
Kingston	1306	1279	27	.....	.....	.....	132	125	7
London	4988	4976	12	.....	.....	.....	329	329	.....
Orillia	1743	1742	1	.....	.....	.....	136	135	1
Ottawa	1566	1553	13	.....	.....	.....	116	115	1
Toronto	5694	5694	.....	9	9	.....	.....	.....	.....
Windsor	2301	2301	.....	.....	.....	.....	214	214	.....
	36829	36776	53	9	9	.....	1320	1311	9
Quebec.									
Montreal	19345	19146	199	136	136	.....	955	940	15
Quebec	10572	10572	.....	.....	.....	.....	1678	1678	.....
Sherbrooke	1146	1146	.....	.....	.....	.....	66	66	.....
Three Rivers	2683	2682	1	.....	.....	.....	283	281	2
	33746	33546	200	136	136	.....	2982	2965	17
New Brunswick.									
Fredericton	762	762	.....	.....	.....	.....	96	96	.....
King's	893	893	.....	.....	.....	.....	122	122	.....
St. John	1503	1503	.....	.....	.....	.....	194	194	.....
	3158	3158	.....	.....	.....	.....	412	412	.....
Nova Scotia.									
Cape Breton	3	3	.....	.....	.....	.....	.....	.....	.....
Halifax	988	988	.....	.....	.....	.....	31	31	.....
Pictou	226	220	6	.....	.....	.....	22	20	2
Yarmouth	300	300	.....	.....	.....	.....	39	39	.....
	1517	1511	6	.....	.....	.....	92	90	2
Prince Edward Island.									
Charlottetown	660	660	.....	.....	.....	.....	22	22	.....
Manitoba.									
Winnipeg	4275	4188	87	29	22	7	63	60	3

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B.

ended 30th June, 1888, showing the Total Number brought for Verifica- each Province, and for the whole Dominion.

Dominion Measures of Capacity.			Irregular Measures.		Measures of Length.			Balances, &c.								
								Equal-Armed.			Steelyards.			Platform Scales, Weigh Bridges, &c.		
Brought for Verification.	Verified	Finally Rejected.	Brought for Verification.	Verified.	Brought for Verification.	Verified	Finally Rejected.	Brought for Verification.	Verified.	Finally Rejected.	Brought for Verification.	Verified.	Finally Rejected.	Brought for Verification.	Verified.	Finally Rejected.
1436	1436	.....	2	2	49	49	...	230	230	.....	51	51	...	833	833	.....
4451	4451	.....	3	3	334	334	...	3560	3560	.....	2030	2030	...	6260	6260	.....
11121	11111	10	1	1	1471	1471	...	190	180	10	18	17	1	655	640	15
13712	13698	14	2	2	232	232	...	922	894	28	295	290	5	196	1879	82
1377	1377	.....	.....	.....	247	206	41	300	300	.. ..	72	72	...	702	701	1
1897	1897	.....	.....	.....	203	203	...	236	234	2	4	4	...	868	865	3
15476	15476	.....	122	122	344	344	...	786	786	.....	533	533	...	1698	1698	.....
2510	2502	8	5	5	105	105	...	374	374	.....	60	60	...	774	750	24
51980	51948	32	135	135	2985	2944	41	6598	6558	40	3063	3057	6	13751	13626	125
18968	18968	.....	47	47	2303	2301	2	2641	2584	57	389	384	5	2936	2873	63
7563	7563	.....	.....	.....	485	485	...	1452	1452	.....	63	63	...	891	891	.....
1014	994	20	.....	.....	127	118	9	200	194	6	50	45	5	532	514	18
3148	3108	40	.....	.....	199	194	5	406	382	24	19	19	...	410	406	4
30693	30633	60	47	47	3114	3098	16	4699	4612	87	521	511	10	4769	4684	85
750	750	.....	.....	.....	.....	.....	...	117	117	.....	6	6	...	229	229	.....
1228	1228	.....	.....	.....	22	22	...	170	170	.....	26	26	...	360	357	3
3162	3159	3	6	6	27	27	...	276	275	1	31	31	...	390	383	7
5140	5137	3	6	6	49	49	...	563	562	1	63	63	...	979	969	10
247	247	.....	.....	.....	2	2	...	1	1	.....	1	1	...	17	17	.....
889	889	.....	8	8	14	14	...	121	121	.....	21	21	...	213	213	.....
500	499	1	.....	.....	4	3	1	40	32	8	3	3	...	82	78	4
434	431	3	.....	.....	115	115	...	55	54	1	66	66	...	166	165	1
2070	2066	4	8	8	135	134	1	217	208	9	91	91	...	478	473	5
373	373	.....	56	56	1	1	...	115	115	.....	1	1	...	252	252	.....
1289	1281	8	.....	.....	48	46	2	207	200	7	149	145	4	680	655	25

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APPENDIX

RETURN of the Weights and Measures Inspected during the Fiscal Year tion, Verified and Rejected, for each Division, for each

NAME OF INSPECTION OFFICE.	WEIGHTS.						IRREGULAR WEIGHTS.		
	Dominion.			Troy.					
	Brought for Verification.	Verified.	Finally Rejected.	Brought for Verification.	Verified.	Finally Rejected.	Brought for Verification.	Verified.	Finally Rejected.
British Columbia.									
Victoria	47	47	.....	.....	.....	.....	.....	.....	.....

RECAPITU

Ontario	36829	36776	53	9	9	.....	1320	1311	9
Quebec	33746	33546	200	136	136	.....	2982	2965	17
New Brunswick	3158	3158	.....	.....	.....	.....	412	412	.....
Nova Scotia	1517	1511	6	.....	.....	.....	92	90	2
Prince Edward Island	660	660	.....	.....	.....	.....	22	22	.....
Manitoba	4275	4188	87	29	22	7	63	60	3
British Columbia	47	47	.....	.....	.....	.....	.....	.....	.....
Grand Total	80232	79886	346	174	167	7	4891	4860	31

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B —*Concluded.*

ended 30th June, 1888, showing the Total Number brought for Verifica- Province, and for the whole Dominion—*Concluded.*

Dominion Measures of Capacity.			Irregular Measures.		Measures of Length.			Balances, &c.								
								Equal-Armed.			Steelyards			Platform Scales, Weigh Bridges, &c.		
Brought for Verification.	Verified.	Finally Rejected.	Brought for Verification.	Verified.	Brought for Verification.	Verified.	Finally Rejected.	Brought for Verification.	Verified.	Finally Rejected.	Brought for Verification.	Verified.	Finally Rejected.	Brought for Verification.	Verified.	Finally Rejected.
32	32	.....	.....	.....	1	1	...	6	6	.....	12	11	1	36	36	.....

LATION.

51980	51948	32	135	135	2985	2944	41	6598	6558	40	3063	3057	6	13751	13626	125
30693	30633	60	47	47	3114	3098	16	4699	4612	87	521	511	10	4769	4684	85
5140	5140	.....	6	6	49	49	...	563	562	1	63	63	...	979	969	10
2070	2069	1	8	8	135	134	1	217	208	9	91	91	...	478	473	5
373	373	.....	56	56	1	1	...	115	115	.....	1	1	...	252	252	.....
1289	1281	8	.....	.....	48	46	2	207	200	7	149	145	4	680	655	25
32	32	.....	.....	.....	1	1	...	6	6	.....	12	11	1	36	36	.....
91577	91476	101	252	252	6333	6273	60	12405	12261	144	3900	3879	21	20945	20695	250

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APPENDIX

RETURN showing the Number of Dominion Weights and Lineal Measures during the Fiscal Year

DIVISION.	DOMINION Avoir-										
	60 lbs	50 lbs.	30 lbs.	20 lbs.	10 lbs.	5 lbs.	3 lbs.	2 lbs.	1 lb.	8 ozs.	4 ozs.
Ontario.											
Belleville	.....	.....	.....	.....	1	17	85	265	257	202	162
Hamilton	.....	.....	.....	.....	1	313	2246	3767	4051	1892	1473
Kingston	.....	.....	.....	2	10	30	64	219	206	188	168
London	7	1	1	2	3	48	304	1009	949	697	632
Orillia	.....	.....	.....	.....	.....	26	124	386	337	222	204
Ottawa	.....	6	.....	.....	6	59	122	280	264	210	199
Toronto	.....	.....	.....	.....	8	120	571	900	1027	689	591
Windsor	.....	40	.....	.....	8	34	112	434	425	299	281
	7	47	1	4	37	677	3628	7260	7516	4399	3710
Quebec.											
Montreal	576	54	17	37	128	1231	1582	2766	2784	2512	2381
Quebec	.....	149	32	52	107	673	797	1544	1530	1438	1380
Sherbrooke	.....	.....	.....	.....	.....	69	97	220	194	143	143
Three Rivers	.....	2	1	7	12	173	197	454	440	420	374
	576	205	50	96	242	2146	2673	4984	4948	4513	4278
New Brunswick.											
Fredericton	.....	.....	.....	1	2	17	14	150	139	112	95
King's	.....	36	3	5	8	25	39	224	165	117	99
St. John	.....	.....	.....	.....	.....	44	23	381	273	222	190
	.....	36	3	6	10	86	76	755	577	451	384
Nova Scotia.											
Cape Breton	.....	.....	.....	.....	.....	.....	1	1	1	.....	.....
Halifax	1	17	1	6	3	80	52	192	154	124	104
Pictou	.....	.....	.....	.....	.....	3	6	43	42	33	31
Yarmouth	.....	.....	.....	.....	.....	15	6	72	62	47	33
	1	17	1	6	3	98	65	308	259	204	168
Prince Edward Island.											
Charlottetown	.....	.....	.....	.....	.....	20	19	180	129	93	77
Manitoba.											
Winnipeg	.....	.....	1	3	185	429	599	1172	1033	411	146
British Columbia.											
Victoria	.....	.....	.....	.....	.....	1	2	9	8	6	5

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C.

of each Denomination presented for Verification in each Inspection Division, ended 30th June, 1888.

Weights.								Troy Weights.	Irregular Weights.	Lineal Measures.					
dupois.															
2 ozs.	1 oz.	8 drs.	4 drs.	2 drs.	1 dr.	½ dr.	Total Number Presented.	Total Number Verified.	Total Number Presented.	Yard.	½ Yard.	2 Feet.	1 Foot.	60 Feet Chains	Total Number Presented.
162	144	93	35	12	3	2	1440	.....	120	48	1	.....	.....	.....	49
1354	1269	1015	349	20	9	2	17791	.....	273	334	.....	.....	.....	.....	334
169	133	78	19	8	8	4	1306	.....	132	1471	.....	.....	.....	.....	1471
518	437	258	101	17	3	1	4988	.....	329	232	.....	.....	.....	.....	232
170	151	68	40	8	4	3	1743	.....	136	247	.....	.....	.....	.....	247
180	145	79	13	3	.....	.....	1566	.....	116	203	.....	.....	.....	.....	203
583	504	365	217	45	72	2	5694	9	.....	342	2	.....	.....	.....	344
258	227	136	43	2	2	.....	2301	.....	214	105	.....	.....	.....	.....	105
3394	3010	2092	817	115	101	14	36829	9	1320	2982	3	.....	.....	.....	2985
2111	1758	1064	289	29	31	.....	19345	136	955	2303	.....	.....	.....	.....	2303
1276	1023	452	113	5	1	.....	10572	.....	1678	485	.....	.....	.....	.....	485
118	95	56	11	.....	.....	.....	1146	.....	66	125	2	.....	.....	.....	127
280	200	89	29	5	.....	.....	2683	.....	283	198	.....	.....	1	.....	199
3785	3076	1661	442	39	32	.....	33746	136	2982	3111	2	.....	1	.....	3114
97	79	34	12	5	5	.....	762	.....	96	.....	.....	.....	.....	.....	.....
85	63	22	2	.....	.....	.....	893	.....	122	22	.....	.....	.....	.....	22
166	146	54	4	.....	.....	.....	1503	.....	194	27	.....	.....	.....	.....	27
348	288	110	18	5	5	.....	3158	.....	412	49	.....	.....	.....	.....	49
.....	.....	.....	.....	.....	.....	.....	3	.....	.....	2	.....	.....	.....	.....	2
92	84	69	7	2	.....	.....	988	.....	31	14	.....	.....	.....	.....	14
27	21	14	6	.....	.....	.....	226	.....	22	.....	4	.....	.....	.....	4
31	19	10	4	1	.....	.....	300	.....	39	115	.....	.....	.....	.....	115
150	124	93	17	3	.....	.....	1517	.....	92	131	4	.....	.....	.....	135
69	50	20	3	.....	.....	.....	660	.....	22	1	.....	.....	.....	.....	1
101	92	59	28	13	3	.....	4275	29	63	48	.....	.....	.....	.....	48
5	5	3	2	.....	1	.....	47	.....	.....	1	.....	.....	.....	.....	1

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APPENDIX

RETURN showing the Number of Dominion Weights and Lineal Measures during the Fiscal Year

DIVISION.	DOMINION										
	Avoir										
	60 lbs.	50 lbs.	30 lbs.	20 lbs.	10 lbs.	5 lbs.	3 lbs.	2 lbs.	1 lb.	8 ozs.	4 ozs.
Ontario.											
Belleville	.....	.....	.....	.....	1	17	85	265	257	202	162
Hamilton	.....	.....	.....	.....	1	343	2,246	3,767	4,051	1,892	1,473
Kingston	.....	.....	.....	2	10	30	63	212	197	184	166
London	7	1	1	2	3	48	304	1,004	946	696	631
Orillia	.....	.....	.....	.....	.....	26	124	386	336	222	204
Ottawa	.....	6	.....	.....	6	59	122	277	261	208	197
Toronto	.....	.....	.....	.....	8	120	571	900	1,027	689	591
Windsor	.....	40	.....	.....	8	34	112	434	425	299	281
	7	47	1	4	37	677	3,627	7,245	7,500	4,392	3,765
Quebec.											
Montreal	576	54	17	37	123	1,224	1,573	2,737	2,762	2,468	2,341
Quebec	.....	149	32	52	107	673	797	1,544	1,530	1,438	1,389
Sherbrooke	.....	.....	.....	.....	.....	69	97	220	194	143	143
Three Rivers	.....	2	1	7	12	173	197	453	440	420	374
	576	205	50	96	242	2,139	2,664	4,954	4,926	4,469	4,238
New Brunswick.											
Fredericton	.....	.....	.....	1	2	17	14	150	139	112	95
King's	.....	36	3	5	8	25	39	224	165	117	99
St. John	.....	.....	.....	.....	.....	44	23	381	273	222	190
	.....	36	3	6	10	86	76	755	577	451	384
Nova Scotia.											
Cape Breton	.....	.....	.....	.....	.....	.....	1	1	1	.....	.....
Halifax	1	17	1	6	3	80	52	192	154	124	104
Pictou	.....	.....	.....	.....	.....	3	6	40	40	32	31
Yarmouth	.....	.....	.....	.....	.....	15	6	72	62	47	33
	1	17	1	6	3	98	65	305	257	203	168
Prince Edward Island.											
Charlottetown	.....	.....	.....	.....	.....	20	19	180	129	93	77
Manitoba											
Winnipeg	.....	.....	1	3	184	427	598	1,155	1,014	396	137
British Columbia.											
Victoria	.....	.....	.....	.....	.....	1	2	9	8	6	5

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C—*Continued.*

of each Denomination, Inspected and Verified in each Inspection Division, ended 30th June, 1888.

Weights.								Troy Weights.	Irregular Weights.	Lineal Measures.					
dupois.															
2 ozs.	1 oz.	8 drs.	4 drs.	2 drs.	1 dr.	½ dr.	Total Number Verified.	Total Number Verified.	Total Number Verified.	Yard.	½ Yard.	2 Feet.	1 Foot.	66 Feet Chains	Total Number Verified.
162	144	93	35	12	3	2	1,440	.....	120	48	1	.....	.....	.....	49
1,354	1,269	1,015	349	20	9	2	17,791	.....	273	334	.....	.....	.....	.....	334
165	133	78	19	8	8	4	1,279	.....	126	1,471	.....	.....	.....	.....	1,471
518	436	257	101	17	3	1	4,976	.....	329	232	.....	.....	.....	.....	232
170	151	68	40	8	4	3	1,742	.....	135	206	.....	.....	.....	.....	206
178	144	79	13	3	.....	.....	1,553	.....	115	203	.....	.....	.....	.....	203
583	504	365	217	45	72	2	5,694	9	.....	342	2	.....	.....	.....	344
258	227	136	43	2	2	.....	2,801	.....	214	105	.....	.....	.....	.....	105
3,388	3,008	2,091	817	115	101	14	36,776	9	1,311	2,941	3	.....	.....	.....	2,944
2,081	1,741	1,063	289	29	31	.....	19,146	136	940	2,301	.....	.....	.....	.....	2,301
1,276	1,023	452	113	5	1	.....	10,572	.....	1,678	485	.....	.....	.....	.....	485
118	95	56	11	.....	.....	.....	1,146	.....	66	116	2	.....	.....	.....	118
280	200	89	29	5	.....	.....	2,682	.....	281	193	.....	.....	1	.....	194
3,755	3,059	1,660	442	39	32	.....	33,546	136	2,965	3,095	2	.....	1	.....	3,098
97	79	34	12	5	5	.....	762	.....	96	.....	.....	.....	.....	.....	.....
85	63	22	2	.....	.....	.....	893	.....	122	22	.....	.....	.....	.....	22
166	146	54	4	.....	.....	.....	1,503	.....	194	27	.....	.....	.....	.....	27
348	288	110	18	5	5	.....	3,158	.....	412	49	.....	.....	.....	.....	49
.....	.....	.....	.....	.....	.....	.....	3	.....	.....	2	.....	.....	.....	.....	2
92	84	69	7	2	.....	.....	988	.....	31	14	.....	.....	.....	.....	14
27	21	14	6	.....	.....	.....	220	.....	20	.....	3	.....	.....	.....	3
31	19	10	4	1	.....	.....	300	.....	39	115	.....	.....	.....	.....	115
150	124	93	17	3	.....	.....	1,511	.....	90	131	3	.....	.....	.....	134
69	50	20	3	.....	.....	.....	660	.....	22	1	.....	.....	.....	.....	1
92	85	57	24	12	3	.....	4,188	22	60	46	.....	.....	.....	.....	46
5	5	3	2	.....	1	.....	47	.....	.....	1	.....	.....	.....	.....	1

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APPENDIX

RETURN showing the Number of Dominion Weights and Lineal Measures during the Fiscal Year

DIVISION.	DOMINION										
	Avoir										
	60 lbs.	50 lbs.	30 lbs.	20 lbs.	10 lbs.	5 lbs.	3 lbs.	2 lbs.	1 lb.	8 ozs.	4 ozs.
Ontario.											
Kingston							1	7	9	4	2
London								5	3	1	1
Orillia									1		
Ottawa								3	3	2	2
							1	15	16	7	5
Quebec.											
Montreal						7	9	29	22	44	40
Sherbrooke											
Three Rivers								1			
						7	9	30	22	44	40
Nova Scotia.											
Pictou								3	2	1	
Manitoba.											
Winnipeg					1	2	1	17	19	15	9

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C—*Continued.*

of each Denomination, Inspected and Rejected in each Inspection Division, ended 30th June, 1888.

Weights.								Troy Weights.	Irregular Weights.	Lineal Measures.					
Dupois.															
2 ozs.	1 oz.	8 drs.	4 drs.	2 drs.	1 dr.	½ dr.	Total Number Rejected.	Total Number Rejected.	Total Number Rejected.	Yard.	½ Yard.	2 Feet.	1 Foot.	66 Feet Chains	Total Number Rejected.
4	.....	.....	.....	.....	.....	.....	27	.....	7	.....	.....	.....	.....	.....	.....
.....	1	1	.....	.....	.....	.....	12	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	1	.....	1	41	.....	.....	.....	.....	41
2	1	.....	.....	.....	.....	.....	13	.....	1	.....	.....	.....	.....	.....	.....
6	2	1	.....	.....	.....	.....	53	.....	9	41	.....	.....	.....	.....	41
30	17	1	.....	.....	.....	.....	199	.....	15	2	.....	.....	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	.....	.....	.....	.....	9
.....	.....	.....	.....	.....	.....	.....	1	.....	2	5	.....	.....	.....	.....	5
30	17	1	.....	.....	.....	.....	200	.....	17	16	.....	.....	.....	.....	16
.....	.....	.....	.....	.....	.....	.....	6	.....	2	.....	1	.....	.....	.....	1
9	7	2	4	1	.....	.....	87	7	3	2	.....	.....	.....	.....	2

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APPENDIX

RETURN showing the Number of Dominion Measures of Capacity, Balances in each Inspection Division, during

DIVISION.	MEASURES OF CAPACITY. Dominion.										
	Bushel.	½ Bushel.	Peck.	Gallon.	½ Gallon	Quart.	Pint.	½ Pint.	Gill.	½ Gill.	TotalNo Presented
Ontario.											
Belleville	22	21	26	168	222	565	345	66	1	.....	1436
Hamilton	16	121	290	588	882	1495	967	87	4	1	4451
Kingston	20	3589	2197	2879	591	1013	709	105	18	.....	11121
London	7	270	391	1465	2180	4112	3429	1858	.....	.....	13712
Orillia	.....	6	16	199	347	410	240	59	50	50	1377
Ottawa	.....	29	36	208	407	579	457	147	34	.....	1897
Toronto	31	109	566	1528	3141	3821	4246	2028	6	.....	15476
Windsor	4	124	179	366	484	765	523	114	1	.....	2510
	100	4269	3701	7401	8204	12760	10916	4464	114	51	51980
Quebec.											
Montreal	69	915	1827	3005	2674	3501	3742	2417	1308	10	18968
Quebec	1	158	136	979	1440	1623	1605	1124	455	42	7563
Sherbrooke	1	34	34	136	224	304	189	73	17	2	1014
Three Rivers	.....	252	144	338	607	684	550	386	126	61	3148
	71	1359	1641	4458	4945	6112	6086	4000	1906	115	30693
New Brunswick.											
Fredericton	11	50	63	173	182	130	84	48	9	.....	750
King's	.....	12	1	250	432	328	159	39	7	.....	1228
St. John	.....	290	197	636	614	582	499	222	122	.....	3162
	11	352	261	1059	1228	1040	742	309	138	.....	5140
Nova Scotia.											
Cape Breton	.....	25	22	32	17	67	43	41	.....	.....	247
Halifax	23	55	76	132	154	190	182	64	12	1	889
Pictou	.....	.....	4	76	106	123	94	71	26	.....	500
Yarmouth	18	7	6	82	160	97	61	3	.....	.....	434
	41	87	108	322	437	477	380	179	38	1	2070
Prince Edward Island.											
Charlottetown	.....	2	1	11	68	109	156	26	.....	.....	373
Manitoba.											
Winnipeg	29	17	2	122	262	411	404	42	.....	.....	1289
British Columbia.											
Victoria	.....	.....	.....	.....	2	6	24	.....	.....	.....	32

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D.

and Weighing Machines of each Denomination presented for Verification Fiscal Year ended 30th June, 1888.

Irregular Measures.	Balances.													
	With Equal Arms.				Steelyards, with Divided Arms.				Weigh-bridges, or Platform Scales.						
Presented for Verification.	5 lbs. and under.	5 lbs to 50 lbs.	50 lbs. to 100 lbs.	100 lbs. and p-wards.	500 lbs. and un er.	500 lbs. to 1,000 lbs.	1,000 lbs. to 2,000 lbs.	2,000 lbs. to 4,000 lbs.	250 lbs. and under.	250 lbs. to 500 lbs.	500 lbs. to 2,000 lbs.	2,000 lbs. to 4,000 lbs.	4,000 lbs. to 6,000 lbs.	6,000 lbs. and upwards.	Total Presented.
2	52	178	.....	.....	44	1	4	2	367	40	255	78	46	47	1114
3	1630	1930	.....	.....	1872	149	9	.....	3406	397	2147	178	24	108	11850
1	40	132	15	3	6	12	.....	.....	232	107	229	19	25	43	862
2	279	642	.....	1	292	3	.....	.....	708	198	725	184	30	116	3178
.....	63	237	.....	.....	72	.....	.....	.....	310	16	300	34	.....	42	1074
.....	22	214	.....	.....	4	.....	.....	.....	408	70	308	26	25	31	1108
122	323	463	.....	.....	521	8	3	1	651	116	554	147	58	172	3017
5	83	291	.....	.....	58	2	.....	.....	323	37	293	47	14	60	1208
135	2492	4087	15	4	2869	175	16	3	6405	981	4811	713	222	619	23412
47	626	1998	2	15	376	4	.....	9	889	656	1145	89	116	41	5966
.....	203	1154	35	160	61	2	.....	.....	139	424	283	30	12	3	2506
.....	40	160	.....	.....	49	.....	1	.....	199	138	142	9	25	19	782
.....	8	376	20	2	18	1	.....	.....	97	141	152	8	6	6	835
47	877	3688	57	177	504	7	1	9	1324	1359	1722	136	159	69	10089
.....	29	88	.....	.....	6	.....	.....	.....	115	75	33	3	.....	3	352
.....	29	105	23	13	26	.....	.....	.....	188	110	59	.....	2	1	556
6	55	221	.....	.....	27	4	.....	.....	191	107	45	16	8	23	697
6	113	414	23	13	59	4	.....	.....	494	292	137	19	10	27	1605
.....	.....	1	.....	.....	1	.....	.....	.....	7	4	2	.....	.....	4	19
8	19	102	.....	.....	18	1	.....	2	79	36	56	10	4	28	355
.....	6	34	.....	.....	3	.....	.....	.....	47	19	12	1	.....	3	125
.....	21	34	.....	.....	66	.....	.....	.....	84	36	28	6	4	8	287
8	46	171	.....	.....	88	1	.....	2	217	95	98	17	8	43	786
56	37	78	.....	.....	1	.....	.....	.....	89	41	96	5	14	7	368
.....	43	158	6	.....	149	.....	.....	.....	280	23	252	55	22	48	1036
.....	2	4	.....	.....	9	1	1	1	12	5	11	4	.....	4	54

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APPENDIX

RETURN showing the Number of Dominion Measures of Capacity, Balances each Inspection Division, during the

DIVISION.	MEASURES OF CAPACITY. Dominion.										
	Bushel.	½ Bushel.	Peck.	Gallon.	½ Gallon.	Quart.	Pint.	½ Pint.	Gill.	½ Gill.	Total No. Verified.
Ontario.											
Belleville	22	21	26	168	222	565	345	66	1	.....	1436
Hamilton	16	121	290	588	882	1495	967	87	4	1	4451
Kingston	20	3589	2195	2875	589	1011	709	105	18	.....	11111
London	7	269	389	1462	2177	4108	3428	1858	.....	.....	13698
Orillia	.....	6	16	199	347	410	240	59	50	50	1377
Ottawa	.....	29	36	208	407	579	457	147	34	.....	1897
Toronto	31	109	566	1528	3141	3821	4246	2028	6	.....	15476
Windsor	4	123	177	363	433	764	523	114	1	.....	2502
	100	4267	3695	7391	8198	12753	10915	4464	114	51	51948
Quebec.											
Montreal	69	915	1327	3005	2674	3501	3742	2417	1308	10	18968
Quebec	1	158	136	979	1440	1623	1605	1124	455	42	7563
Sherbooke	1	30	26	134	220	302	189	73	17	2	994
Three Rivers	.....	245	131	333	603	679	547	383	126	61	3108
	71	1348	1620	4451	4937	6105	6083	3997	1906	115	30633
New Brunswick.											
Fredericton	11	50	63	173	182	130	84	48	9	.....	750
King's	.....	12	1	250	432	328	159	39	7	.....	1228
St. John	.....	290	196	634	614	582	499	222	122	.....	3159
	11	352	260	1057	1228	1040	742	309	138	.....	5137
Nova Scotia.											
Cape Breton	.....	25	22	32	17	67	43	41	.....	.....	247
Halifax	23	55	76	132	154	190	182	64	12	1	889
Pictou	.....	.....	3	76	106	123	94	71	26	.....	499
Yarmouth	17	6	6	82	159	97	61	3	.....	.....	431
	40	86	107	322	436	477	380	179	38	1	2068
Prince Edward Island.											
Charlottetown	.....	2	1	11	68	109	156	26	.....	.....	373
Manitoba.											
Winnipeg	29	17	2	120	260	409	403	41	.....	.....	1281
British Columbia.											
Victoria	.....	.....	.....	.....	2	6	24	.....	.....	.....	32

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D—*Continued.*

and Weighing Machines of each Denomination Inspected and Verified, in Fiscal Year ended 30th June, 1888.

Irregular Measures.	Balances.													
	With Equal Arms.				Steelyards, with Divided Arms.				Weigh-bridges or Platform Scales.						
Verified.	5 lbs. and under.	5 lbs. to 50 lbs.	50 lbs. to 100 lbs.	100 lbs. and upwards.	500 lbs. and under.	500 lbs. to 1,000 lbs.	1,000 lbs. to 2,000 lbs.	2,000 lbs. to 4,000 lbs.	250 lbs. and under.	250 lbs. to 500 lbs.	500 lbs. to 2,000 lbs.	2,000 lbs. to 4,000 lbs.	4,000 lbs. to 6,000 lbs.	6,000 lbs. and upwards.	Total Number Verified.
2	52	178	.....	.....	44	1	4	2	367	40	255	78	46	47	1114
3	1630	1930	.....	.....	1872	149	9	.....	3406	397	2147	178	24	108	11850
1	37	125	15	3	5	12	.....	.....	226	101	227	19	24	43	837
2	274	619	.....	1	288	2	.....	.....	691	186	693	180	26	103	3063
.....	63	237	.....	.....	72	.....	.....	.....	310	16	299	34	.....	42	1073
.....	22	212	.....	.....	4	.....	.....	.....	407	70	306	26	25	31	1103
122	323	463	.....	.....	521	8	3	1	651	116	554	147	58	172	3017
5	83	291	.....	.....	58	2	.....	.....	318	35	282	47	14	54	1184
135	2484	4055	15	4	2864	174	16	3	6376	961	4763	709	217	600	23241
47	622	1945	2	15	371	4	.....	9	876	642	1113	86	115	41	5841
.....	203	1154	35	160	61	2	.....	.....	139	424	283	30	12	3	2506
.....	40	154	.....	.....	44	.....	1	.....	192	133	138	9	25	17	753
.....	7	353	20	2	18	1	.....	.....	96	139	151	8	6	6	807
47	872	3606	57	177	494	7	1	9	1303	1338	1685	133	158	67	9907
.....	29	88	.....	.....	6	.....	.....	.....	115	75	33	3	.....	3	352
.....	29	105	23	13	26	.....	.....	.....	188	108	58	.....	2	1	553
.....	55	220	.....	.....	27	4	.....	.....	188	104	45	16	8	22	686
.....	113	413	23	13	59	4	.....	.....	491	287	136	19	10	26	1594
.....	.....	1	.....	.....	1	.....	.....	.....	7	4	2	.....	.....	4	19
8	19	102	.....	.....	18	1	.....	2	79	36	56	10	4	28	354
.....	2	39	.....	.....	3	.....	.....	.....	44	18	12	1	.....	3	113
.....	20	34	.....	.....	66	.....	.....	.....	83	36	28	6	4	8	285
8	41	167	.....	.....	88	1	.....	2	213	94	98	17	8	43	772
56	37	78	.....	.....	1	.....	.....	.....	89	41	96	5	14	7	368
.....	40	154	6	.....	145	.....	.....	.....	268	23	244	53	21	46	1000
.....	2	4	.....	.....	8	1	1	1	12	5	11	4	.....	4	53

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APPENDIX

RETURN showing the Number of Dominion Measures of Capacity, Balances each Inspection Division, during

DIVISION.	MEASURES OF CAPACITY. Dominion.										
	Bushel.	½ Bushel.	Peck.	Gallon.	½ Gallon.	Quart.	Pint.	½ Pint.	Gill.	½ Gill.	Total No Rejected.
Ontario.											
Kingston	.....	.....	2	4	2	2	.....	.....	.....	.....	10
London	.....	1	2	3	3	4	1	.....	.....	.....	14
Orillia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ottawa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Windsor	.....	1	2	3	1	1	.....	.....	.....	.....	8
	.....	2	6	10	6	7	1	.....	.....	.....	32
Quebec.											
Montreal	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sherbrooke	.....	4	8	2	4	2	.....	.....	.....	.....	20
Three Rivers	.....	7	13	5	4	5	3	3	.....	.....	40
	.....	11	21	7	8	7	3	3	.....	.....	60
New Brunswick.											
King's	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. John	.....	.....	1	2	.....	.....	.....	.....	.....	.....	3
	.....	.....	1	2	.....	.....	.....	.....	.....	.....	3
Nova Scotia.											
Pictou	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Yarmouth	1	1	.....	.....	1	.....	.....	.....	.....	.....	3
	1	1	1	.....	1	.....	.....	.....	.....	.....	4
Manitoba.											
Winnipeg	.....	.....	.....	2	2	2	1	1	.....	.....	8
British Columbia.											
Victoria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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D—*Concluded.*

and Weighing Machines of each Denomination Inspected and Rejected in the Fiscal Year ended 30th June, 1888.

BALANCES.

With Equal-arms.				Steelyards with Divided Arms.				Weigh-bridges or Platform Scales.						Total Number Rejected.
5 lbs. and under.	5 lbs. to 50 lbs.	50 lbs. to 100 lbs.	100 lbs. and upwards.	500 lbs and under.	500 lbs. to 1,000 lbs	1,000 lbs. to 2,000 lbs.	2,000 lbs. and upwards.	250 lbs. and under.	250 lbs. to 500 lbs.	500 lbs. to 1,000 lbs.	2,000 lbs. to 4,000 lbs.	4,000 lbs. to 6,000 lbs.	6,000 lbs. and upwards.	
3	7	.....	.....	1	.....	.....	.....	6	6	2	.....	1	.....	26
5	23	.....	.....	4	1	.....	.....	17	12	32	4	4	13	115
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
.....	2	.....	.....	.....	.....	.....	.....	1	.....	2	.....	.....	.....	5
.....	.....	.....	.....	.....	.....	.....	.....	5	2	11	.....	.....	6	24
8	32	.....	.....	5	1	.....	.....	29	20	48	4	5	19	171
4	53	.....	.....	5	.....	.....	.....	13	14	32	3	1	.....	125
.....	6	.....	.....	5	.....	.....	.....	7	5	4	.....	.....	2	29
1	23	.....	.....	.....	.....	.....	.....	1	2	1	.....	.....	.....	28
5	82	.....	.....	10	.....	.....	.....	21	21	37	3	1	2	182
.....	.....	.....	.....	.....	.....	.....	.....	.....	2	1	.....	.....	.....	3
.....	1	.....	.....	.....	.....	.....	.....	3	3	.....	.....	.....	1	8
.....	1	.....	.....	.....	.....	.....	.....	3	5	1	.....	.....	1	11
4	4	.....	.....	.....	.....	.....	.....	3	1	.....	.....	.....	.....	12
1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	2
5	4	.....	.....	.....	.....	.....	.....	4	1	.....	.....	.....	.....	14
3	4	.....	.....	4	.....	.....	.....	12	.....	8	2	1	2	36
.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1

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APPENDIX E.

STATEMENT of Gas Inspection Expenditure and Receipts, for the Year ended 30th June, 1888.

Districts.	Inspector.	Expenditure						Receipts.
		Salaries.	Special Assistance.	Rent.	Travelling Expenses.	Sundries.	Total.	
Ontario.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Belleville	Wm. Johnson	150 00	.....	50 00	.....	45 60	245 60	69 75
Brockville	H. J. Hubertus	.....	.....	.....	33 15	16 63	49 78	18 75
Cobourg	T. Cahill	91 64	.....	45 00	24 30	4 00	164 94	24 00
Cornwall	Wm. Burrows	.....	.....	.....	49 65	162 95	212 60	57 75
Deseronto	Wm. Johnson	49 98	.....	.....	.....	.....	49 98	.....
*Hamilton	D. McPhie	1,000 00	2 00	27 00	126 08	116 62	1,271 70	612 75
*Kingston	Wm. Burrows	400 00	.....	45 00	.....	53 35	498 35	97 25
Lindsay	T. Cahill	83 32	.....	45 00	16 75	0 50	145 57	.....
*London	J. Williams	1,000 00	.....	110 00	305 40	96 85	1,512 25	564 50
Ottawa	H. J. Hubertus	700 00	.....	212 50	62 20	87 88	1,062 58	197 50
Peterborough	T. Cahill	133 28	.....	.....	.....	2 75	136 03	114 75
Port Hope	do	91 64	.....	.....	15 10	11 75	118 49	20 50
Toronto	Geo. Sutherland. J. K. Johnstone.	1,386 41	.....	.....	15 50	75 65	1,477 56	2,203 40
	District Inspectors	.....	.....	.....	14 00	.....	14 00	.....
		5,086 27	2 00	534 50	662 13	674 53	6,959 43	3,960 90
Quebec.								
Montreal	N. Aubin	1,400 00	732 00	.....	.....	17 55	2,149 55	1,730 00
Quebec	N. Levasseur	1,150 00	.....	41 00	.....	376 57	1,567 57	263 75
Sherbrooke	.....	.....	155 85	.....	.....	30 27	186 12	58 00
Three Rivers	N. Marchand	200 00	.....	.....	.....	1 50	201 50	27 00
		2,750 00	887 85	41 00	.....	425 89	4,104 74	2,078 75
New Brunswick.								
Chatham	R. A. Lawlor	150 00	.....	.....	.....	53 90	203 90	.....
Fredericton	S. A. Purdie	200 00	.....	.....	.....	7 65	207 65	30 50
Moncton	R. A. Lawlor	150 00	.....	.....	96 59	1 00	247 59	29 50
St. John	A. Rowan	1,000 00	.....	.....	.....	48 37	1,048 37	250 25
		1,500 00	.....	.....	96 59	110 92	1,707 51	310 25
Nova Scotia.								
Halifax, Pictou, Yarmouth	A. Miller	1,300 00	.....	273 12	480 44	114 98	2,168 54	387 00
P. E. Island.								
Charlottetown	Jos. Knight	200 00	.....	56 44	.....	27 00	283 44	52 75
Manitoba.								
Winnipeg	R. T. Huggard	240 00	.....	108 00	.....	46 00	394 00	71 50
British Columbia.								
Victoria	Richard Jones	200 00	.....	210 00	.....	3 00	413 00	65 50

*Hamilton District includes the Offices at Brantford, Dundas, Guelph and St. Catharines; Kingston District includes the Office at Cornwall; London District includes the Offices at Ingersoll, Chatham, Stratford, Windsor, Woodstock and St. Thomas.

APPENDIX E—*Concluded.*

STATEMENT of Gas Inspection Expenditure and Receipts, for the Year ended 30th June, 1888.

RECAPITULATION.

District.	Inspector.	Expenditure.						Receipts.
		Salaries.	Special Assistance.	Rent.	Travelling Expenses.	Sundries.	Total.	
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario		5,086 27	2 00	534 50	662 13	674 53	6,959 43	3,980 90
Quebec		2,750 00	887 85	41 00	.....	425 89	4,104 74	2,078 75
New Brunswick		1,500 00	.....	.....	96 59	110 92	1,707 51	310 25
Nova Scotia		1,300 00	.....	273 12	480 44	114 98	2,168 54	387 00
P. E. Island		200 00	.....	56 44	.....	27 00	283 44	52 75
Manitoba		240 00	.....	108 00	.....	46 00	394 00	71 50
British Columbia		200 00	.....	210 00	.....	3 00	413 00	65 50
General Expenses		600 00	.....	.....	709 77	3,107 44	4,417 21	.....
Queen's Printer		.....	.....	.....	.....	277 17	277 17	.....
Stationery		.....	.....	.....	.....	64 94	64 94	.....
Lithographing		.....	.....	.....	.....	105 00	105 00	.....
		11,876 27	889 85	1,223 06	1,948 93	4,956 87	20,894 98	6,946 65

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APPENDIX F.

RETURN of Gas Meters presented for Verification, Verified, Verified after First Rejection and Rejected, during the Year ended 30th June, 1888.

Inspection Office.	Presented for Verification.	Kind.		Verified.			Verified after First Rejection.			Rejected.			Total Verified and Rejected.	
		Wet.	Dry.	Correct.	Fast.	Slow.	Correct.	Fast.	Slow.	Unsound.	Fast.	Slow.	Verified.	Rejected.
Belleville	64	.....	64	13	37	12	.....	.....	.....	1	1	.....	62	2
Brantford	55	.....	55	18	18	19	.....	.....	.....	.....	.....	.....	55	.....
Brockville	31	.....	31	2	9	17	.....	.....	.....	.....	2	1	28	3
Chatham	25	.....	25	8	6	8	.....	.....	.....	.....	3	.....	22	3
Cornwall	3	.....	3	.....	3	.....	.....	.....	.....	.....	.....	.....	3	.....
Dundas	32	.....	32	8	3	21	.....	.....	.....	.....	.....	.....	32	.....
Guelph	111	.....	111	12	7	91	.....	.....	.....	.....	.....	1	110	1
Hamilton	464	.....	464	88	46	330	.....	.....	.....	.....	.....	.....	464	.....
Ingersoll	17	.....	17	7	2	3	1	1	.....	4	1	.....	12	5
Kingston	105	.....	105	14	35	51	.....	.....	.....	.....	1	4	100	5
London	338	.....	338	91	52	178	4	4	13	6	11	.....	321	17
Ottawa	121	.....	121	9	24	86	.....	.....	.....	.....	1	1	119	2
Peterborough	113	.....	113	25	47	41	.....	.....	.....	.....	.....	.....	113	.....
Stratford	34	.....	34	5	21	2	.....	.....	.....	1	5	.....	28	6
St. Catherines	110	.....	110	31	16	63	.....	.....	.....	.....	.....	.....	110	.....
St. Thomas	51	.....	51	16	14	21	5	1	.....	.....	.....	.....	51	.....
Toronto	3011	.....	3011	477	427	2051	.....	.....	.....	5	24	27	2955	56
Windsor	30	.....	30	6	11	13	.....	.....	.....	.....	.....	.....	30	.....
Woodstock	101	.....	101	39	33	27	.....	.....	.....	1	1	.....	99	2
Montreal	2147	.....	2147	310	426	1400	.....	.....	.....	.....	8	3	2136	11
Quebec	161	31	130	26	45	88	.....	.....	1	.....	2	.....	159	2
Sherbrooke	33	.....	33	14	17	2	.....	.....	.....	.....	.....	.....	33	.....
Fredericton	10	.....	10	1	.....	5	.....	.....	.....	.....	1	3	6	4
St. John	140	.....	140	28	18	89	.....	.....	.....	.....	2	3	135	5
Halifax	376	344	32	160	83	128	5	1	5	.....	4	1	371	5
Pictou	9	.....	9	3	3	.....	.....	.....	.....	1	2	.....	6	3
Yarmouth	21	.....	21	5	5	11	.....	.....	.....	.....	.....	.....	21	.....
Charlottetown	51	.....	51	8	16	8	.....	.....	.....	8	9	2	32	19
Winnipeg	93	.....	93	53	3	37	.....	.....	.....	.....	.....	.....	93	.....
Victoria	88	2	86	25	22	34	.....	.....	.....	.....	5	2	81	7
	7945	377	7568	1502	1449	4836	15	7	19	27	83	48	7787	158

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INSPECTION OF GAS.

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APPEN

RETURN of Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power.						Sulphur per		
	Highest.	Lowest.	Average.	Standard	No. of times below Standard.	No. of Tests.	Highest.	Lowest.	Average
	Candles.	Candles.	Candles.	Candles			Grains.	Grains.	Grains.
Belleville:—									
July	17·42	16·00	16·82	16	0	3			
August	16·33	14·98	15·49	16	2	3			
September									
October	16·42	14·85	15·64	16	2	4			
November	18·56	15·31	16·63	16	2	4			
December	19·24	18·21	18·51	16	0	6			
January	18·80	16·96	17·90	16	0	6			
February	18·25	16·77	17·61	16	0	4			
March									
April	18·41	17·76	18·08	16	0	2			
May	17·41	17·35	17·39	16	0	3			
June	18·80	16·91	17·89	16	0	5			
					6	40			
Brantford:—									
July				16					
August			18·78	16	0	1			
September			17·44	16	0	1			
October			18·14	16	0	1			
November			19·40	16	0	1			
December			18·78	16	0	1			
January			18·01	16	0	1			
February			17·85	16	0	1			
March			18·68	16	0	1			
April			18·35	16	0	1			
May			18·78	16	0	1			
June			19·86	16	0	1			
					0	11			
Brockville:—									
July									
August									
September									
October									
November									
December									
January									
February									
March									
April									
May			23·17	16	0	1			
June	21·30	19·56	20·65	16	0	3			
					0	4			

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DIX G.

Inspected during the Year ended 30th June, 1888.

100 Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard	Times in excess of Allowance.	No. of Tests.	Highest.	Lowest.	Average	Standard	Times in excess of Allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
Grains.			Grains.	Grains.	Grains	Grains.						
									3	0	3	
									3	0	3	
												No test, pressure guage broken.
									4	0	4	
									4	0	4	
									6	0	6	
									6	0	6	
									4	0	4	
												No test this month.
									2	0	2	
									3	0	3	
									5	0	5	
									40	0	40	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									11	0	11	
									1	0	1	
									3	0	3	
									4	0	4	

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APPENDIX

RETURN of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power.						Sulphur per		
	Highest.	Lowest.	Average	Standard	No. of times below Standard.	No. of Tests.	Highest.	Lowest.	Average
	Candles.	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Chatham :—									
July			17·38	16	0	1			
August			16·49	16	0	1			
September			16·70	16	0	1			
October			16·08	16	0	1			
November			17·35	16	0	1			
December			16·76	16	0	1			
January			16·90	16	0	1			
February			16·40	16	0	1			
March			16·41	16	0	1			
April			17·32	16	0	1			
May			17·71	16	0	1			
June			16·62	16	0	1			
					0	12			
Cobourg :—									
July			17·20	16	0	1			
August			17·00	16	0	1			
September			17·00	16	0	1			
October			16·56	16	0	1			
November			16·67	16	0	1			
December			16·86	16	0	1			
January			16·86	16	0	1			
February			16·72	16	0	1			
March			16·15	16	0	1			
April			16·64	16	0	1			
May			16 60	16	0	1			
June			Nil.						
					0	11			
Cornwall :—									
July			25·58	16	0	1			
August			20·98	16	0	1			
September			24·00	16	0	1			
October			22·78	16	0	1			
November			21·94	16	0	1			
December			23·35	16	0	1			
January			22·32	16	0	1			
February			19·24	16	0	1			
March			19·30	16	0	1			
April			17·85	16	0	1			
May			23·18	16	0	1			
June			20·49	16	0	1			
					0	12			

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G—*Continued.*

Inspected during the Year ended 30th June, 1888.

100 Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard	Times in excess of Allowance.	No. of Tests.	Highest.	Lowest.	Average	Standard	Times in excess of Allowance.	No. of Tests.	No. of times absent.	No of times present	No. of Tests.	
Grains.			Grains.	Grains.	Grains.	Grains.						
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									.....	.....	.....	On leave.
									11	0	11	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	

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APPENDIX

RETURN of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power.						Sulphur per		
	Highest.	Lowest.	Average.	Standard	No. of times below Standard.	No. of Tests.	Highest	Lowest.	Average
	Candles.	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Dundas:—									
July			18·44	16	0	1			
August			17·85	16	0	1			
September			18·29	16	0	1			
October			19·23	16	0	1			
November			18·19	16	0	1			
December			18 68	16	0	1			
January			18·41	16	0	1			
February			19·40	16	0	1			
March			18 06	16	0	1			
April			18·15	16	0	1			
May			17·85	16	0	1			
June			18·21	16	0	1			
					0	12			
Guelph:—									
July			19·34	16	0	1			
August			19·34	16	0	1			
September			19·18	16	0	1			
October			19·34	16	0	1			
November			17·70	16	0	1			
December			17·65	16	0	1			
January			19·18	16	0	1			
February			18·68	16	0	1			
March			18·15	16	0	1			
April			18·84	16	0	1			
May			19·83	16	0	1			
June			20·39	16	0	1			
					0	12			
Hamilton:—									
July			18·50	16	0	1			
August			17·35	16	0	1			
September			17·40	16	0	1			
October			15·81	16	1	1			
November			16·36	16	0	1			
December			16·86	16	0	1			
January			16·81	16	0	1			
February			17·00	16	0	1			
March			16·40	16	0	1			
April			16·81	16	0	1			
May			17·35	16	0	1			
June			18·31	16	0	1			
					1	12			

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G—*Continued.*

Inspected during the Year ended 30th June, 1888.

100 Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard	Times in excess of Allowance.	No. of Tests.	Highest.	Lowest.	Average	Standard	Times in excess of Allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
Grains.			Grains.	Grains.	Grains.	Grains.						
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	

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APPENDIX

RETURN of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power.						Sulphur per		
	Highest.	Lowest.	Average.	Standard	No. of times below Standard.	No. of Tests.	Highest.	Lowest.	Average
	Candles.	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Ingersoll :—									
July			17·00	16	0	1			
August			17·76	16	0	1			
September			16·32	16	0	1			
October			17·31	16	0	1			
November			18·21	16	0	1			
December			16·82	16	0	1			
January			16·00	16	0	1			
February			19·05	16	0	1			
March			17·65	16	0	1			
April			19·22	16	0	1			
May			17·93	16	0	1			
June			16·25	16	0	1			
					0	12			
Kingston :—									
July	22·38	19·12	20·91	16	0	4			
August	22·81	21·22	22·08	16	0	4			
September	22·13	20·75	21·25	16	0	5			
October	22·80	21·25	22·20	16	0	4			
November	22·40	20·08	21·10	16	0	4			
December	22·50	20·02	21·78	16	0	4			
January	22·44	21·58	22·10	16	0	4			
February	22·76	20·06	21·87	16	0	4			
March	23·84	22·57	23·37	16	0	4			
April	22·80	22·31	22·52	16	0	3			
May	24·06	20·03	22·70	16	0	4			
June	22·80	19·30	21·80	16	0	5			
					0	49			
Lindsay :—									
July			20·50	16	0	1			
August			20·30	16	0	1			
September			20·64	16	0	1			
October			21·32	16	0	1			
November			21·38	16	0	1			
December			21·65	16	0	1			
January			21·43	16	0	1			
February			21·00	16	0	1			
March			22·70	16	0	1			
April			20·80	16	0	1			
May			20·50	16	0	1			
June									
					0	11			

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G.— *Continued.*

Inspected during the Year ended 30th June, 1888.

100 Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard	Times in excess of Allowance.	No of Tests.	Highest.	Lowest.	Average	Standard	Times in excess of Allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
Grains.			Grains.	Grains	Grains.	Grains.						
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	
									4	0	4	
									4	0	4	
									5	0	5	
									4	0	4	
									4	0	4	
									4	0	4	
									4	0	4	
									4	0	4	
									4	0	4	
									3	0	3	
									4	0	4	
									5	0	5	
									49	0	49	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									.....	...	.....	No test made.
									11	0	11	

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APPENDIX

RETURN of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power.						Sulphur per		
	Highest.	Lowest.	Average.	Standard.	No. of times below Standard.	No. of Tests.	Highest.	Lowest.	Average
	Candles.	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
London :—									
July	19·20	18·29	18·65	16	0	3			
August	20·82	19·14	19·72	16	0	4			
September	20·00	18·01	19·24	16	0	4			
October	21·78	19·24	20·43	16	0	4			
November	20·77	19·86	20·28	16	0	3			
December	22·48	20·62	21·49	16	0	3			
January	20·05	19·76	19·87	16	0	3			
February	20·00	18·84	19·49	16	0	3			
March	21·45	19·70	20·67	16	0	3			
April	22·85	18·81	20·57	16	0	3			
May	21 00	20·18	20·73	16	0	3			
June	21·00	20·10	20·55	16	2	2			
					0	38			
Ottawa :—									
July	17·60	15·35	16·46	16	3	8	33·81	18·24	27·47
August	16·74	15·56	16·12	16	2	8	27·28	22·46	25·53
September	17·62	15·90	16·47	16	2	8	28·36	20·64	23·84
October									
November	16·56	14·16	15·31	16	6	8	21·21	16·35	18·61
December	16·82	13·34	14·83	16	7	8	20·40	14·27	18·74
January	14·48	13·06	13·68	16	8	8	19·50	11·36	15·46
February	16·03	13·80	14·67	16	7	8	19·75	11·30	15·12
March	16·00	14·50	15·04	16	4	5	19·33	11·75	16·65
April									
May	15·06	15·06	15·06	16	1	1			18·13
June	16·39	11·65	14·44	16	4	5	26·30	20·59	23·52
					44	67			
Peterborough :—									
July			16·98	16	0	1			
August			17·26	16	0	1			
September			16·92	16	0	1			
October			17·85	16	0	1			
November			17·45	16	0	1			
December			17·00	16	0	1			
January			16·86	16	0	1			
February			17·00	16	0	1			
March			17·11	16	0	1			
April			17·10	16	0	1			
May			16·80	16	0	1			
June									
					0	11			

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G—*Continued.*

Inspected during the Year ended 30th June, 1888.

100 Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard	Times in excess of Allowance.	No. of Tests.	Highest.	Lowest.	Average	Standard	Times in excess of Allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
Grains.			Grains.	Grains.	Grains.	Grains						
.....	.....	.....	.....	.....	.....	.....	.....	...	3	0	3	
.....	.....	.....	.....	.....	.....	.....	.....	...	4	0	4	
.....	.....	.....	.....	.....	.....	.....	.....	...	4	0	4	
.....	.....	.....	.....	.....	.....	.....	.....	...	4	0	4	
.....	.....	.....	.....	.....	.....	.....	.....	...	3	0	3	
.....	.....	.....	.....	.....	.....	.....	.....	...	3	0	3	
.....	.....	.....	.....	.....	.....	.....	.....	...	3	0	3	
.....	.....	.....	.....	.....	.....	.....	.....	...	3	0	3	
.....	.....	.....	.....	.....	.....	.....	.....	...	3	0	3	
.....	.....	.....	.....	.....	.....	.....	.....	...	3	0	3	
.....	.....	.....	.....	.....	.....	.....	.....	...	2	0	2	
									38	0	38	
35	0	4	3·13	1·55	2·33	4	0	4	8	0	8	
35	0	4	3·09	1·53	2 31	4	0	4	8	0	8	
35	0	4	1·26	1·00	1·16	4	0	4	8	0	8	
.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	Inspector on leave.
35	0	4	2·25	1·49	1·89	4	0	4	8	0	8	
35	0	4	2·26	1·50	1·89	4	0	4	8	0	8	
35	0	4	2·76	1·97	2·36	4	0	4	8	0	8	
35	0	4	2·52	1·50	1·97	4	0	4	8	0	8	
35	0	3	3·00	2·50	2·75	4	0	3	5	0	5	
.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	Office being removed to new premises.
35	0	1	.....	.....	.....	.....	.....	...	.....	.....	.....	
35	0	3	3·09	2·59	2·84	4	0	3	5	0	5	
	0	35					0	34	66	0	66	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	Inspector on leave
									11	0	11	

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APPENDIX

RETURN of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power.						Sulphur per		
	Highest.	Lowest.	Average.	Standard	No. of times below Standard.	No. of Tests.	Highest.	Lowest.	Average
	Candles.	Candles.	Candles.	Candles.			Grains	Grains.	Grains.
Port Hope :—									
July			16·80	16	0	1			
August			16·97	16	0	1			
September			19·40	16	0	1			
October			16·80	16	0	1			
November			17·50	16	0	1			
December			16·33	16	0	1			
January			17·14	16	0	1			
February			16·88	16	0	1			
March			17·45	16	0	1			
April			17·00	16	0	1			
May			16·86	16	0	1			
June					0	0			
					0	11			
Stratford :—									
July				16					
August				16					
September				16					
October			16·50	16	0	1			
November			18·00	16	0	1			
December			16·86	16	0	1			
January			18·23	16	0	1			
February			17·40	16	0	1			
March			16·05	16	0	1			
April			16·93	16	0	1			
May			17·34	16	0	1			
June			17·00	16	0	1			
					0	9			
St. Catharines :—									
July				16					
August			16·81	16	0	1			
September			16·53	16	0	1			
October			16·22	16	0	1			
November			16·33	16	0	1			
December			16·50	16	0	1			
January			16·36	16	0	1			
February			16·72	16	0	1			
March			16·50	16	0	1			
April			17·28	16	0	1			
May			18·56	16	0	1			
June			22·22	16	0	1			
					0	11			

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G—*Continued.*

Inspected during the Year ended 30th June, 1888.

100 Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard	Times in excess of Allowance.	No. of Tests.	Highest.	Lowest.	Average	Standard	Times in excess of Allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
Grains.			Grains.	Grains.	Grains.	Grains.						
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	Inspector on leave.
									11	0	11	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	No test for illuminating power; photometer out of order.
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
									12	0	12	
.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	No test made.
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
									11	0	11	

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APPENDIX

RETURN of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power.						Sulphur per		
	Highest.	Lowest.	Average.	Standard	No. of times below Standard	No. of Tests.	Highest.	Lowest.	Average
	Candles.	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
St. Thomas :—									
July			17·70	16	0	1			
August			15·71	16	1	1			
September			16·80	16	0	1			
October			17·50	16	0	1			
November			16·50	16	0	1			
December			16·28	16	0	1			
January			16·89	16	0	1			
February			16·36	16	0	1			
March			16·23	16	0	1			
April			17·46	16	0	1			
May			17·04	16	0	1			
June			16·68	16	0	1			
					1	12			
Toronto :—									
July	18·23	17·26	17·63	16	0	10	17·07	14·22	15·64
August	18·59	16·33	17·34	16	0	8	15·45	14·15	14·80
September	18·83	16·19	17·60	16	0	9	16·72	11·18	13·95
October	17·94	16·56	17·21	16	0	9	16·06	14·32	15·19
November	17·79	16·14	16·94	16	0	8	15·37	14·41	13·39
December	18·08	16·29	17·05	16	0	10	13·48	11·38	12·43
January	17·50	15·95	16·93	16	1	9	16·47	13·45	14·96
February	17·56	15·51	16·83	16	1	8	14·22	8·84	11·53
March	17·50	16·04	16·81	16	0	9	15·86	11·54	13·70
April	17·78	16·11	16·97	16	0	8	13·71	11·22	12·46
May	17·53	16·84	17·10	16	0	9	13·93	10·48	12·20
June	17·56	16·33	16·98	16	0	9	14·21	13·81	14·01
					2	106			
Windsor :—									
July			16·65	16	0	1			
August			16·69	16	0	1			
September			18·52	16	0	1			
October			17·79	16	0	1			
November			17·85	16	0	1			
December			17·00	16	0	1			
January			17·63	16	0	1			
February			16·53	16	0	1			
March			16·70	16	0	1			
April			17·96	16	0	1			
May			17·10	16	0	1			
June			16·92	16	0	1			
					0	12			

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G—*Continued.*

Inspected during the Year ended 30th June, 1888.

100 Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard	Times in excess of Allowance.	No. of Tests.	Highest.	Lowest.	Average	Standard	Times in excess of Allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
Grains.			Grains.	Grains.	Grains.	Grains.						
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
									12	0	12	
35	0	2	2·60	2·00	2·30	4	0	2	10	0	10	
35	0	2	2·06	1·79	1·92	4	0	2	8	0	8	
35	0	2	2·54	2·00	2·27	4	0	2	9	0	9	
35	0	2	3·00	2·29	2·64	4	0	2	9	0	9	
35	0	2	2·53	2·03	2·28	4	0	2	8	0	8	
35	0	2	2·52	2·27	2·39	4	0	2	10	0	10	
35	0	2	2·25	2·14	2·19	4	0	2	9	0	9	
35	0	2	2·50	2·00	2·25	4	0	2	9	0	9	
35	0	2	2·12	1·74	1·93	4	0	2	9	0	9	
35	0	2	1·99	1·76	1·87	4	0	2	8	0	8	
35	0	2	2·00	1·50	1·75	4	0	2	9	0	9	
35	0	2	1·77	1·54	1·65	4	0	2	9	0	9	
	0	24					0	24	107	0	107	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
									12	0	12	

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APPENDIX

RETURN of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power.						Sulphur per		
	Highest.	Lowest.	Average.	Standard	No. of times below Standard.	No. of Tests.	Highest.	Lowest.	Average
	Candles.	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Woodstock:—									
July			18·97	16	0	1			
August			19·34	16	0	1			
September			20·62	16	0	1			
October			21·07	16	0	1			
November			18·37	16	0	1			
December			22·85	16	0	1			
January			20·20	16	0	1			
February			20·47	16	0	1			
March			21·85	16	0	1			
April			20·40	16	0	1			
May			20·70	16	0	1			
June			19·41	16	0	1			
					0	12			
Montreal:—									
July	18·24	16·15	17·07	16	0	8	32·82	22·04	27·43
August	18·02	16·33	17·31	16	0	10	23·78	15·31	19·54
September	18·24	16·86	17·82	16	0	8	51·50	38·07	44·78
October	18·46	17·33	17·90	16	0	9	52·27	41·57	46·92
November	19·44	17·43	18·23	16	0	9	45·10	17·98	31·54
December	18·55	17·14	17·95	16	0	8	43·11	37·92	40·51
January	17·80	16·00	16·62	16	0	9	50·91	45·95	48·43
February	17·76	16·91	17·21	16	0	9	49·33	46·70	48·01
March	19·81	16·87	18·49	16	0	8	53·91	39·95	46·93
April	19·53	17·55	18·11	16	0	9	54·35	44·21	49·28
May	18·10	17·19	17·51	16	0	9	47·14	34·87	41·00
June	18·41	16·81	17·63	16	0	8	51·36	34·76	42·06
					0	104			
Quebec:—									
July			19·32	16	0	1	18·09	9·90	13·99
August			18·03	16	0	1	19·29	12·64	15·96
September			17·87	16	0	1	9·17	8·72	8·94
October			16·96	16	0	1	23·76	12·18	17·97
November			17·76	16	0	1	17·87	17·36	17·61
December			16·31	16	0	1	14·47	13·06	13·76
January			16·87	16	0	1	25·49	16·83	21·16
February							15·91	13·25	14·58
March			17·48	16	0	1	12·73	12·31	12·52
April			16·92	16	0	1	18·64	16·91	17·77
May			16·70	16	0	1	20·64	18·26	19·45
June			17·61	16	0	1	15·95	14·56	15·25
					0	11			

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G—*Continued.*

Inspected during the Year ended 30th June, 1888.

100 Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard	Times in excess of Allowance.	No. of Tests.	Highest.	Lowest.	Average	Standard	Times in excess of allowance.	No. of Tests.	No. of times absent	No of times present.	No. of Tests.	
Grains.			Grains	Grains.	Grains.	Grains.						
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
							.....	...	12	0	12	
35	0	2	0·00	0·00	0·00	4	0	2	8	0	8	
35	0	2	0·00	0·00	0·00	4	0	2	10	0	10	
35	2	2	0·00	0·00	0·00	4	0	2	8	0	8	
35	2	2	0·00	0·00	0·00	4	0	2	9	0	9	
35	1	2	0·00	0·00	0·00	4	0	2	9	0	9	
35	2	2	0·00	0·00	0·00	4	0	2	8	0	8	
35	2	2	0·00	0·00	0·00	4	0	2	9	0	9	
35	2	2	0·00	0·00	0·00	4	0	2	9	0	9	
35	2	2	0·00	0·00	0·00	4	0	2	8	0	8	
35	2	2	0·00	0·00	0·00	4	0	2	9	0	9	
35	1	2	0·00	0·00	0·00	4	0	2	9	0	9	
35	1	2	0·00	0·00	0·00	4	0	2	8	0	8	
	11	24					0	24	104	0	104	
35	0	2	0·00	0·00	0·00	4	0	2	2	0	2	
35	0	2	0·00	0·00	0·00	4	0	2	2	0	2	
35	0	2	0·00	0·00	0·00	4	0	2	2	0	2	
35	0	2	0·00	0·00	0·00	4	0	2	2	0	2	
35	0	2	0·00	0·00	0·00	4	0	2	2	0	2	
35	0	2	0·00	0·00	0·00	4	0	2	2	1	2	
35	0	2	0·00	0·00	0·00	4	0	2	2	0	2	
35	0	2	0·00	0·00	0·00	4	0	2	.....	.....	.....	
35	0	2	0·00	0·00	0·00	4	0	2	2	0	2	
35	0	2	0·00	0·00	0·00	4	0	2	2	0	2	
35	0	2	0·00	0·00	0·00	4	0	2	2	0	2	
	0	24					0	24	22	0	22	

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APPENDIX

RETURN of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power.						Sulphur per		
	Highest.	Lowest.	Average.	Standard	No. of times below Standard.	No. of Tests.	Highest.	Lowest.	Average
	Candles.	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Sherbrooke :—									
July			25·96	16	0	1			
August			25·04	16	0	1			
September			23·48	16	0	1			
October			25·20	16	0	1			
November			29·93	16	0	1			
December			27·38	16	0	1			
January			23·58	16	0	1			
February			25·77	16	0	1			
March			26·67	16	0	1			
April			27·23	16	0	1			
May			28·96	16	0	1			
June			26·92	16	0	1			
					0	12			
Three Rivers :—									
July	16·66	15·12	16·03	16	2	5			
August	16·81	15·76	16·33	16	1	5			
September	16·24	15·23	15·84	16	2	4			
October	16·35	15·80	16·00	16	3	4			
November	17·15	16·04	16·59	16	0	4			
December	17·50	15·62	17·02	16	1	5			
January	16·58	16·32	16·43	16	0	4			
February	16·89	15·54	16·24	16	2	5			
March	17·09	15·79	16·44	16	1	4			
April	17·38	16·16	16·78	16	0	4			
May	17·34	16·55	16·88		0	4			
June	18·12	16·08	16·82		0	4			
					12	52			
Chatham, N.B. :—									
July	16·10	15·80	15·96	16	1	3			
August	16·20	15·90	16·06	16	1	3			
September	16·00	15·60	15·80	16	2	3			
October	16·10	15·70	15·87	16	2	3			
November	16·20	15·90	16·03	16	1	3			
December	15·90	15·40	15·66	16	3	3			
January	16·10	15·70	15·90	16	2	3			
February	16·00	15·40	15·67		2	3			
March									
April									
May									
June									
					14	24			

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G—*Continued.*

Inspected during the Year ended 30th June, 1888.

100 Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard	Times in excess of Allowance.	No. of Tests.	Highest.	Lowest.	Average	Standard	Times in excess of Allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
Grains.			Grains	Grains.	Grains.	Grains.						
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	
									5	0	5	
									5	0	5	
									4	0	4	
									4	0	4	
									4	0	4	
									5	0	5	
									4	0	4	
									5	0	5	
									4	0	4	
									4	0	4	
									4	0	4	
									4	0	4	
									52	0	52	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									.....	.....	.....	
									.....	.....	.....	
									.....	.....	.....	
									24	0	24	

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APPENDIX

RETURN of the Illuminating Power and Purity of Gas

Inspection Offices.	Illuminating Power.						Sulphur per		
	Highest.	Lowest.	Average.	Standard	No. of times below Standard.	No. of Tests.	Highest.	Lowest.	Average
	Candles.	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Fredericton :—									
July			16·81	16	0	1			
August			16·95	16	0	1			
September			16 51	16	0	1			
October			16·73	16	0	1			
November			16 58	16	0	1			
December			16·82	16	0	1			
January			16·09	16	0	1			
February			16·00	16	0	1			
March									
April			16·24	16	0	1			
May			17·54	16	0	1			
June			17·86	16	0	1			
					0	11			
Moncton, N.B. .—									
July	17·30	17·10	17·20	16	0	3			
August	16·70	16·60	16·66	16	0	3			
September	17·10	16·90	17·00	16	0	3			
October									
November	17·30	17·00	17·16	16	0	3			
December	17·20	16·80	17·00	16	0	3			
January	17·00	16·60	16·80	16	0	3			
February	16·70	16·50	16·57	16	0	3			
March									
April									
May									
June									
					0	21			
St. John :—									
July	16·86	16·19	16·47	16	0	7	24·35	17·95	21·59
August	18·01	16·14	16·70	16	0	8	20·43	14·78	17·95
September	18·08	16·22	17·06	16	0	6	30·38	22·45	26·74
October	17·36	16·05	16·81	16	0	7	35·71	31·71	33·95
November	17·85	16·25	17·07	16	0	7	28·33	17·11	22·70
December	18·06	16·22	17 08	16	0	6	18·63	14·91	16·71
January	16·86	15·87	16·49	16	1	7	18·03	14·62	16·38
Febuary	17·06	16·36	16·77	16	0	7	14·33	13·49	13·92
March	17·86	16·22	17·25	16	0	7	19·02	15·33	16·73
April	17·30	16·22	16·78	16	0	7	18·89	16·13	17·29
May	18·15	16 70	17·20	16	0	8	20·33	18·68	19·30
June	17·68	16·53	17·20	16	0	7	22·86	17·16	19·06
					1	84			

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G—*Continued.*

Inspected during the Year ended 30th June, 1888.

100 Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard	Times in excess of Allowance.	No. of Tests.	Highest	Lowest.	Average	Standard	Times in excess of Allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
Grains.			Grains.	Grains.	Grains.	Grains.						
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	0	1	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	0	2	2	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
									9	3	12	
.....	.....	.....	.....	.....	.....	.....	.....	...	3	0	3	
.....	.....	.....	.....	.....	.....	.....	.....	...	3	0	3	
.....	.....	.....	.....	.....	.....	.....	.....	...	3	0	3	
.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	...	3	0	3	
.....	.....	.....	.....	.....	.....	.....	.....	...	3	0	3	
.....	.....	.....	.....	.....	.....	.....	.....	...	3	0	3	
.....	.....	.....	.....	.....	.....	.....	.....	...	3	0	3	
.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	
									21	0	21	
35	0	4	4·12	2·46	3·29	4	1	4	7	0	7	
35	0	4	2·17	·71	1·40	4	0	4	8	0	8	
35	0	4	3·01	1·94	1·28	4	0	4	6	0	6	
35	1	3	1·57	1·06	1·36	4	0	3	7	0	7	
35	0	4	2·04	1·05	1·99	4	0	4	7	0	7	
35	0	4	1·18	·00	·75	4	0	4	6	0	6	
35	0	4	1·61	·56	·94	4	0	4	7	0	7	
35	0	4	1·85	·89	1·23	4	0	4	7	0	7	
35	0	4	3·08	·44	1·35	4	0	4	7	0	7	
35	0	4	1·67	·60	1·04	4	0	4	7	0	7	
35	0	5	1·10	·64	·81	4	0	5	8	0	8	
35	0	4	1·15	·57	·83	4	0	4	7	0	7	
	1	48					1	48	84	0	84	

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APPENDIX

RETURN of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power.						Sulphur per		
	Highest.	Lowest.	Average.	Standard	No. of times below Standard.	No. of Tests.	Highest.	Lowest.	Average
	Candles.	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Halifax :—									
July	19·94	18·83	19·38	16	0	2	29 30	28·54	28·92
August	20·91	20·58	20·74	16	0	2	44·87	27·56	36·21
September	20·35	20·24	20·29	16	0	2	40·68	27·04	33·86
October	18·95	18·41	18·68	16	0	2	37·11	19·95	28·53
November	19·56	19·49	19·52	16	0	2	34·62	14·78	24·70
December	18·78	18·26	18·52	16	0	2	29·43	27·95	28·69
January	20·01	18·45	19·23	16	0	2	37·58	28·44	23·01
February	18·71	18·40	18·55	16	0	2	25·18	24·36	24·77
March	19·60	19·48	19·54	16	0	2	25·49	25·49	25·49
April	18·18	17·54	17·86	16	0	2	27·59	25·27	26·43
May	16·30	17·50	16·90	16	0	2	22·65	24·81	23·63
June	18·00	17·67	17·83	16	0	2	30·10	22·76	26·43
					0	24			
Pictou—									
July			19·24	16	0	1			
August			20·12	16	0	1			
September			20·15	16	0	1			
October			19·64	16	0	1			
November			20·20	16	0	1			
December			20·15	16	0	1			
January			19·04	16	0	1			
February			18·83	16	0	1			
March			18 37	16	0	1			
April			18·32	16	0	1			
May			18·00	16	0	1			
June			20·63	16	0	1			
					0	12			
Yarmouth :—									
July			17·48	16	0	1			
August			19·33	16	0	1			
September			17·48	16	0	1			
October			16·39	16	0	1			
November			16·28	16	0	1			
December			17·49	16	0	1			
January			16·46	16	0	1			
February			16·73	16	0	1			
March			16·10	16	0	1			
April			17·23	16	0	1			
May			17·33	16	0	1			
June			16·64	16	0	1			
					0	12			

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G.—*Continued.*

Inspected during the Year ended 30th June, 1888.

100 Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard	Times in excess of Allowance.	No. of Tests.	Highest	Lowest.	Average	Standard	Times in excess of Allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
Grains.			Grains.	Grains.	Grains.	Grains.						
35	0	2	·00	·00	·00	4	0	2	2	0	2	
35	1	2	·00	·00	·00	4	0	2	2	0	2	
35	1	2	·049	·0251	·0375	4	0	2	2	0	2	
35	1	2	·0192	·00	·0096	4	0	2	2	0	2	
35	0	2	·00	·00	·00	4	0	2	2	0	2	
35	0	2	·05	·00	·025	4	0	2	2	0	2	
35	1	2	·00	·00	·00	4	0	2	2	0	2	
35	0	2	·00	·00	·00	4	0	2	2	0	2	
35	0	1	·00	·00	·00	4	0	1	2	0	2	
35	0	2	·00	·00	·00	4	0	2	2	0	2	
35	0	2	·00	·00	·00	4	0	2	2	0	2	
35	0	2	·00	·00	·00	4	0	2	2	0	2	
	4	23					0	23	24	0	24	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	12	0	12	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	1	0	1	
.....	.....	.....	.....	.....	.....	.....	.....	...	12	0	12	

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APPENDIX

RETURN of the Illuminating Power and Purity of Gas

Inspection Office.	Illuminating Power.						Sulphur per		
	Highest.	Lowest.	Average.	Standard	No. of times below Standard.	No. of Tests.	Highest.	Lowest.	Average
	Candles.	Candles.	Candles.	Candles.			Grains.	Grains.	Grains.
Charlottetown :—									
July	20·46	20·00	20·21	16	0	3			
August	20·20	18·30	19·00	16	0	3			
September	18·90	18·04	18·35	16	0	3			
October	18·60	17·90	18·28	16	0	3			
November	20·35	19·15	19·90	16	0	3			
December	19·86	18·95	19·43	16	0	4			
January	20·10	17·44	18·85	16	0	3			
February	21·60	18·57	20·06	16	0	3			
March	20·37	19·35	19·78	16	0	4			
April	19·51	18·73	19·19	16	0	3			
May	19·69	16·82	18·14	16	0	3			
June	19·41	17·94	18·87	16	0	3			
					0	38			
Winnipeg :—									
July			19·40	16	0	1			
August			20·34	16	0	1			
September			20·30	16	0	1			
October			21·07	16	0	1			
November			20·25	16	0	1			
December			21·00	16	0	1			
January			20·84	16	0	1			
February			20·90	16	0	1			
March			19·80	16	0	1			
April			19·24	16	0	1			
May			19·68	16	0	1			
June			20·00	16	0	1			
					0	12			
Victoria, B. C.:—									
July	18·21	17·94	18·08	16	0	3			
August	19·10	18·20	18·75	16	0	3			
September	18·21	17·75	18·03	16	0	3			
October	18·50	18·10	18·31	16	0	3			
November	18·44	18·10	18·34	16	0	3			
December	18·77	17·61	18·35	16	0	3			
January	18·60	18·34	18·47	16	0	3			
February	18·36	18·07	18·23	16	0	3			
March	18·12	17·56	17·79	16	0	3			
April	18·35	18·10	18·21	16	0	3			
May	17·70	17·56	17·62	16	0	3			
June	18·20	17·75	18·03	16	0	3			
					0	36			

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G—*Continued.*

Inspected during the Year ended 30th June, 1888.

100 Cubic Feet.			Ammonia per 100 Cubic Feet.						Sulphuretted Hydrogen.			Remarks.
Standard	Times in excess of Allowance.	No. of Tests.	Highest.	Lowest.	Average	Standard	Times in excess of Allowance.	No. of Tests.	No. of times absent.	No. of times present.	No. of Tests.	
Grains.			Grains.	Grains	Grains.	Grains.						
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									4	0	4	
									3	0	3	
									3	0	3	
									4	0	4	
									3	0	3	
									3	0	3	
									3	0	3	
									38	0	38	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									1	0	1	
									12	0	12	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									3	0	3	
									36	0	36	

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REPORT

ON

ADULTERATON OF FOOD

BEING

SUPPLEMENT No. III

TO THE REPORT

OF THE

DEPARTMENT OF INLAND REVENUE,

1888.

Printed by Order of Parliament.

OTTAWA:
PRINTED FOR THE QUEEN'S PRINTER AND CONTROLLER OF STATIONERY
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INSPECTION OF FOOD

To the Honorable
The Minister of Inland Revenue.

SIR,—I have the honor herewith to submit my report respecting the analysis of food, also the reports of the analysts appointed under the Act; together with tabulated statements prepared in this Department of the results of the analysis of the various samples submitted to them.

The following is a summary statement of the whole number of samples analysed by the local Dominion analysts:—

Name of Sample.	Genuine.	Adulterated.	Doubtful.	Total.
Butter	76	13		89
Cheese	70	3		73
Cream of tartar	20	13		33
Coffee	49	23	3	85
Drugs	26	5	14	45
Liquors	131	23	10	164
Milk	113	28	7	148
Spices	78	111	5	194
Total	563	219	39	831
Water				146
Total				977

In addition to the work thus summarized, the Chief Analyst has conducted, at the Departmental Laboratory, a systematic series of analyses of specific articles, viz.:—

In respect of these the Chief Analyst has been authorized to publish an independent bulletin as each series is completed. These have been reproduced as appendices and will form valuable material upon which to fall back in building up a system of administration, which, though at present tentative and perhaps disappointing to enthusiasts in immediate results, will, it is hoped, as experience is gained and standards of purity are established, so reduce the cost of systematic and general analysis and inspection as to exercise a noticeable influence upon the general character of food products offered for sale in the Dominion.

At the present time a great pressure is being exerted towards the establishment of a standard for milk. The Chief Analyst recommends 3½ per cent. butter fat and 12 per cent. total solids as a minimum. The undersigned, while admitting the extreme desirability of determining some definite standard, is of opinion that

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the Department has not yet such information as would justify the hope that one could be fixed which would be fair to all localities and conditions.

Further tests will be made over a wide extent of territory, and it is hoped that before long the Department may feel itself justified in recommending some more definite action.

The undersigned regrets that the percentage of adulterated samples, more especially of butter, coffee and spices has largely increased. The latter, while not so serious to the public health as many other adulterations, is, at the best, a commercial fraud, and is so serious in extent that the question of licensing spice mills and systematically inspecting the product seems to be one which may be urged upon the Government in the not very distant future.

I have the honor to be, Sir,
Your obedient servant,

E. MIALL,
Commissioner of Inland Revenue.

INLAND REVENUE DEPARTMENT,
OTTAWA, 2nd March, 1889.

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APPENDIX A.

INSPECTION OF FERTILISERS, FOOD AND DRUGS.

REPORTS OF PUBLIC ANALYSTS.

1.—DISTRICT OF NOVA SCOTIA.

OFFICE OF THE PUBLIC ANALYST,
HALIFAX, N.S., 22nd January, 1889.

To the Commissioner of Inland Revenue,
Ottawa.

SIR,—I have the honor to submit my report on the samples of food, drugs, &c., received for analysis during the year ending 30th June, 1888.

I have analysed in all 158 samples of which I have returned, 118 as genuine and forty as adulterated, as appears from the following table:—

—	Genuine	Adulterated.	Total.
Butter	6	6	12
Cheese	16	3	19
Coffee	6	9	15
Cream of tartar	4	1	5
Liquors	31	1	32
Milk	11	7	18
Spices	19	13	32
Water	25	.....	25
Total	118	40	158

Butter.

In most cases the flavor was very far from good; no foreign fats were found, the adulteration consisting of too much salt and water.

Cheese.

Generally of very good quality.

Coffee.

The addition of both chicory and roasted grains to this article is carried to a great extent; 60 per cent. of the samples containing either one or both.

Milk.

Of the eighteen samples, six were taken in the country, and were all genuine, of the remaining twelve taken in this city seven were adulterated 58 per cent., either by removal of cream or addition of water.

Spices.

A large amount of adulteration is carried on under this head, as much as 40 per cent. of the samples analysed.

I have the honor to be, Sir,
Your obedient servant,
MAYNARD BOWMAN,
Public Analyst.

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2.—DISTRICT OF NEW BRUNSWICK.

CHEMICAL LABORATORY, 74 GERMAIN ST.,
ST. JOHN, N. B., 23rd January, 1889.

To the Commissioner of Inland Revenue,
Ottawa.

SIR,—I have the honor to submit to you my Annual Report on Food Analysis for the year ending 30th June, 1888.

During the year I received 117 samples for analysis.

Of these 28 were found to be adulterated, 83 were genuine, and 9 were classed as doubtful.

I append a tabulated list of the samples examined:—

—	Genuine	Adulterated.	Doubtful.	Total.
Butter	7	3	....	10
Cheese	15	....	....	15
Coffee	10	....	....	10
Cream of tartar	3	2	....	5
Milk	7	....	....	7
Spices	8	16	....	24
Spirituous liquors	3	1	6	10
Water	14	3	3	20
Whole milk	16	....	....	16
Total	83	25	9	117

Butter.

The limited number of samples of butter examined fails to reveal the presence of "butterine" which is now imported from the United States to a considerable amount, and sold in this city as genuine butter.

Cheese.

All the samples of cheese examined were found to be pure and free from farinaceous matter.

Coffee.

All the samples genuine.

Cream of Tartar.

Of the five samples of cream of tartar examined three were genuine, and two adulterated with "gypsum." It should be possible to bring about an improvement in the quality of the cream of tartar sold in Canada. At the present time at least one third of the so called cream of tartar is adultered with most objectionable substances.

Milk.

It will be seen that there is apparently a change for the better in the milk supplied to the residents of this city. It remains to be seen whether this state of things will continue.

Spices.

As usual a large proportion of the spices were found to be adulterated.

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Spirituous Liquor.

It is evident that quite a large proportion of the spirituous liquor sold in this city is more or less sophisticated.

Water.

The samples of drinking water examined do not reveal any very objectionable features, although in some cases it would no doubt be advisable to examine the water supply at regular periods.

Whole Milk.

The samples of whole milk which were taken with a view to establishing milk standards for the Dominion have been made the subject of a special report by the Chief Analyst.

I have the honor to be, Sir,
Your obedient servant,

W. F. BEST,
Public Analyst.

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3.—DISTRICT OF QUEBEC.

OFFICE OF THE PUBLIC ANALYST,
QUEBEC, 3rd November, 1888.

To the Commissioner of Inland Revenue,
Ottawa.

SIR,—I beg to forward my report for the year ended 1st July, 1888.

The Government officials supplied me with 154 samples during the year. I found 116 to be pure, 37 adulterated, and 1 doubtful, as shown by the following table:—

Nature of Sample.	Good.	Adulterated.	Doubtful.	Total.
Coffee	9	1		10
Milk	14	3	1	18
Cream of tartar		5		5
Whiskey	10			10
Gin	15			15
Mustard	2	5		7
Pepper		6		6
Cayenne pepper		2		2
Cinnamon		2		2
Cloves		2		2
Mace	1			1
Allspice	1			1
Ginger		2		2
Nutmegs	2			2
Cheese	8			8
Butter	41	2		43
		Bad.		
Water	13	7		20
Total	116	37	1	154

Whiskey

Is, as a rule, more or less diluted, and contains no amylic nor propylic compounds. The same thing may be said of the gin samples supplied to me.

Spices.

Adulteration is generally practised upon what is called by the generic term spices such as mustard, cloves, ginger, &c.

Butter.

I have classed nearly all the butter samples as good, though most of them contain too much water and salt. They are samples of good butter, but badly prepared.

Water.

All the samples collected from the Quebec water works are of excellent quality. Those from River St. Charles are also of excellent quality, with the exception of those collected in the Louise Basin.

As a rule, the water taken from wells or cisterns must be considered as non-potable.

At Notre Dame de Lévis, several institutions and establishments have reservoirs or wells, whereof the water should be filtered before consumption.

I have the honor to be, Sir,

Your obedient servant,

M. FISET, M. D. L.,
Public Analyst.

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4—DISTRICT OF MONTREAL.

OFFICE OF THE PUBLIC ANALYST,
MONTREAL, 7th February. 1889.

To the Commissioner of Inland Revenue,
Ottawa.

SIR,—I have the honor of submiting to you my annual report of the results of my analysis of samples of food and drugs for the year ending 1st July, 1888.

During the year I have analyzed and reported upon 179 samples taken in my district, viz.:—

	Samples.
By Food Inspector Mr. Watkins	99
By Mr. Collector Simpson, Sherbrooke	20
By Inspector Mr. Towle	28
By District Inspector Mr. Costigan	32
Total	179

Of these I have found 115 genuine, 55 adulterated, 9 doubtful, as may be seen in the table annexed:—

Nature of Sample.	Genuine.	Adulterated	Doubtful.	Total.
Milk	28	4		32
Butter	8	2		10
Cheese	24			24
Coffee	7	8		15
Drugs (cream of tartar)	3	2		5
Spices	8	22	2	32
Liquors	28	9	4	33
	Wholesome.	Impure.		
Potable waters from wells, rivers and public supplies in the district, viz.:—Montreal Water Works, St. Lawrence, private wells, St. Johns, P.Q., Outremont, Joliette, Three Rivers.	17	8	3	28
Total	115	55	9	179

The above results may be considered on the whole satisfactory, especially in regard to the quality of milk, perhaps the most important article of food, and the one most readily tampered with, and the diminished ratio of adulteration seems to show that the operation of the Act has had a deterring and beneficial effect.

The number of samples examined is, however, far too small for such a population and should be increased tenfold, to afford a fair inference. Some improvement may be noted in the quality of the coffees and those sent in from the country seem fairly pure, but the same remark as to the paucity of the number of samples applies to this important article of food.

The spices do not show much improvement. The spirituous liquors do not show such gross adulteration as is popularly suspected, being chiefly lowered in strength by dilution with water, and probably in some cases fortified again with alcohol as "high wines." The standard, however, of these liquors is difficult to fix, except for

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medicinal purposes. It is satisfactory to find that cheese manufactured in Canada is of a genuine character and of very fair quality. Greater pains should, however, be taken to give it improved keeping qualities.

The inquiry into the public supplies of "potable water" I regard as the most important work yet undertaken by the Department, and the results so far obtained would, I consider, justify municipal authorities or Provincial Boards of Health in closing up old private wells, and replacing these by artesian wells of adequate depth, so as to obtain the well filtered water of the lower stratum, and excluding all surface water.

Wells in cities, and closely populated districts, should be filled up and closed permanently, wherever a public water supply can be obtained or a river supply reached. This is necessary, not only for the direct benefit of the public health, but indirectly for the benefit of the cattle supplying us with food as milk or meat.

During my dairy inspection of last summer I found many herds of cattle badly supplied with water, some wells and tanks placed in or near horse and cow stables, receiving drainage therefrom. The sheds in a filthy condition, uncleaned from the previous winter manure, and the daily milking during the summer conducted in these dirty, crowded and ill-ventilated shippons. Some of the water tanks are placed within the sheds and receive all the ammoniacal vapors and organic germs arising from the decomposing manure.

It would be desirable that a regular inspection of these "dairy farms" should be made by the Government to regulate the proper housing, ventilating and watering of these poor cattle, especially during the winter season.

It would also be desirable for milk standards to have the milk tested as to quality and cream, when the cows are out of exercise and on winter food—to compare its quality with the results obtained when on pasturage and free to roam.

It would also be most desirable to have a similar series of water samples tested during the low water and heat of autumn, to compare with the samples taken in February and March from under the ice. The dangerous impurities in well and river water occur during the summer drought and at the fall of the year, at which periods I consider that a system of public filtration is essential to the health of populous towns and cities, as this is a period at which much preventable sickness occurs from this source.

I have the honor to be, Sir,

Your obedient servant,

JOHN BAKER EDWARDS, Ph.D., D.C.L., F.C.S.,

Public Analyst.

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5.—DISTRICT OF KINGSTON.

PUBLIC ANALYST'S OFFICE, OTTAWA, 15th January, 1889.

To the Commissioner of Inland Revenue,
Ottawa.

SIR,—I have the honor to lay before you my report of analysis of foods, drugs, &c., to 30th June, 1888.

The annexed table shows a résumé of my operations during this last fiscal year.

It may be remarked at the inspection of it, that the adulteration of condiments and liquors is carried on a very large scale, and that the authorities should watch more closely, if possible, the manufactures and sale of these articles.

I have the honor to be, Sir,

Your obedient servant,

F. X. VALADE, M.D.,
Public Analyst.

Nature of Sample.	Good.	Fair.	Bad.	Total.
Coffee	5	3	2	10
Cream of tartar	4		1	5
Condiments	7	1	17	25
Drugs				25
Liquors	13		12	25
Milk	16			16
Water				20
Total				126

F. X. VALADE, M. D.,
Public Analyst.

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6.—DISTRICT OF TORONTO.

SCHOOL OF PRACTICAL SCIENCE,
TORONTO, 11th January, 1889.

To the Commissioner of Inland Revenue,
Ottawa.

SIR,—I have the honor to submit my report for the past year.

Since July, 1887, I have analysed 236 samples, including 25 samples of water and 37 samples of milk from herds of cows milked under the supervision of myself and an officer of the Department for the purpose of getting data for the establishment of milk standards.

This number also includes 14 samples of butter and 7 samples of cheese, which should have been submitted to me during the year but which I did not receive until July of the present year.

The following table is a summary of the results of my work, except that upon water and upon milk standards:—

Sample.	Description.	Genuine.	Adulterated.	Doubtful.	Total.
Butter		14			14
Coffee		12	3		15
Cheese		7			7
Drugs	Cream of tartar	6			6
	Citrate of iron and ammonia	4			4
	do quinine	3	1		4
	Sweet spirits of nitre			3	3
	Tincture of opium	4			4
	Quinine wine	4	1		5
Milk		19	14	6	39
Spices	Allspice		1		1
	Cayenne		2		2
	Cinnamon	1	2		3
	Cloves		1	2	3
	Ginger	2	1		3
	Mace		1		1
	Mustard	6	3		9
	Nutmeg	2			2
	Pepper	5	3		8
Spirits	Gin	19			19
	Rectified spirits	5			5
	Whiskey	15			15
		128	35	11	174

If we deduct from the total the 11 doubtful samples we have 163, of which 35 were adulterated, *i.e.*, 21·4 per cent. Last year the percentage calculated in a similar manner was 28·4 per cent.

Butter.

In the 14 samples examined no evidence of the presence of foreign fats was met with.

Cheese.

Seven samples of cheese were analysed, with special reference to the possible admixture of foreign fats. No such adulteration was detected.

Coffee and Spices.

These call for no special remark.

Drugs.

The three samples of sweet spirits of nitre examined were considerably below the strength prescribed by the British Pharmacopeia. Eight preparations of quinine,

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namely, 4 samples of citrate of iron and quinine, and 4 samples of quinine wine were examined Of these one sample of citrate was found to contain only 3·7 per cent. of quinine instead of 14·2 per cent. as it should have done; and one sample of quinine wine only contained ·13 grains of sulphate of quinine in the fluid ounce instead of 1 grain. All the samples of tincture of opium examined were of full pharmacopeial strength.

Spirits.

My instructions with reference to the examination of the spirits were to look specially for methylated spirit and accordingly a careful search was made for methyl alcohol in every sample. In addition to the ordinary tests for methyl alcohol the following process was employed:

Two hundred c.c. of the sample was treated by fractional distillation from potassium carbonate and potassium hydrate until it was reduced to about 15 c.c. The specific gravity of this distillate was taken with great care and the percentage of alcohol deduced from the tables. This was usually between 88 and 91 per cent. Then by means of a Victor Meyer's apparatus the volume of vapour yielded by a given weight of the sample under known temperature and pressure was determined and compared with the volume of vapour yielded under the same conditions by an equal weight of a mixture of ethyl alcohol and water in the same proportions as in the sample. Since 1 grain of ethyl alcohol yields at 0° C. and 760 m.m. barometer, 485·37 c.c. cubic centimetres of vapour, while one grain of methyl alcohol yielded 687·7 cubic centimetres, it is possible to detect by this method a mixture of methyl alcohol with ethyl alcohol.

In none of the samples which I examined could I detect any methylated spirit either by this or any other method.

Milk.

Thirty-nine samples of milk were examined, of which 22 were submitted by the inspector for the municipality of Toronto. Of the other 17, 6 came from Peterboro', 6 from Port Hope and 5 from Toronto. The results of the analysis of these 17 samples of milk are shown in the following table:—

Locality.	Genuine.	Watered.	Skimmed	Total.
Peterboro'	4	2		6
Port Hope	6			6
Toronto	4	1		5

The milks submitted by the Toronto Municipal Inspector were first examined by him by the lactometer and lactoscope and hence the percentage of adulteration appears very large, as follows:—Genuine 5, watered 10, skimmed 1, doubtful 6; Total, 22. These numbers of course give no idea of the character of the milk supplied to Toronto.

Water.

Twenty-five samples of water from wells and public supplies in different towns were analysed. Of these, 5 were reported impure, 4 doubtful, 4 of medium purity and 12 of great purity.

Milk Standards.

During the month of July, in accordance with instructions received from the Department, I examined the milk derived from a number of herds of cows. The results of these examinations are contained in the following table:—

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No.	Spec. Gravity.	Fat.	Solids not Fat.	Total Solids.	Remarks.	Date.	Time.	Name.	Location.
									Lot.
370	1031·9	3·36	8·85	12·21	Sour	July 5	a.m.	Wm Golding	24
371	1028·0	2·90	9·25	12·23	do	do 5	p.m.	do	24
372	1031·0	3·23	10·23	13·46		do 5	p.m.	Ed. Warnica	23
373	1030·0	4·01	8·50	12·51		do 5	p.m.	— Pickering	
374	1030·6	3·79	8 53	12·32		do 6	a m.	W. Wallace	19
375	1031·8	3·64	8·92	12·56		do 6	a.m.	P. McKenzie	18–19
376	1032·6	3·66	8·98	12·64		do 7	p m.	P. Gibson	18
377	1034·0	3·88	9·22	13·10		do 7	p m.	R. McBride	17
378	1031·4	3·54	8·70	12·24		do 7	p.m.	J. Scrivener	16
379	1032·0	3·79	8·71	12·50		do 8	a.m.	J. Weldrick	22 23
380	1031·2	3·88	8·20	12·08		do 8	a.m.	R. Roseburgh	22
381	1031·0	4·87	8·61	13·48		do 8	a.m.	S. Dunn	19–20
382	1032·2	3·56 3·55	9·02 9·03	12·58 12·58		do 19	p.m.	W. Carson	11
383	1030·6	3·28 3·12	8·41 8·56	11·69 11·68		do 19	p.m.	J. Duff	14
384	1030·6	3 04 3·04	8·41 8·47	11·45 11·51		do 20	p.m.	J. Bales	15
385	1029·5	4·04 4·06	8·33 8·31	12·37 12·37		do 20	p.m.	J. Shepperd	16
386	1031·9	3·24 3·23	8·93 8·96	12·17 12·19		do 21	a.m.	D. Holmes	20
387	1030·7	4·10 4 00	8·66 8·78	12·76 12·78		do 21	a.m	W. Ford	
388	1029 7	2 78 2·78	7·99 8·00	10·77 10 78		do 21	p.m.	J. Breakey	15
389	1032·4	2·99 2·96	8·86 8·89	11·85 11·85		do 21	p.m.	J. McLean	16
390	1031·7	3·76 3·74	8·65 8·65	12·41 12·39		do 22	a.m.	D McLean	11
391	1031·4	3·98 3·95	8·86 8·88	12·84 12·83		do 22	a.m	W. Silvester	10
392	1031·3	2·75 2 76	8 42 8·43	11·17 11·19		do 25	p.m	W. Harrison	11–12
393	1030·7	4·11 4·16	8·81 8·77	12·92 12·93		do 25	p m.	D. Duncan	11
394	1031·4	3·52 3·46	8·72 8·85	12·24 12·31		do 26	a m	J. Wheelan	11
395	1032·1	4·24 4·23	9·20 9·21	13·44 18·44		do 26	a.m.	H. Mercer	10–11
396	1030·8	2 93 3·16	8·85 8·65	11·78 11·81		do 26	p.m.	H. Mason	6

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Concession.	Township.	No. of Cows.	Breed.	Feed.	Quantity per herd.	Quantity per Cow.	Remarks.
					Galls.	Galls.	
1	W. York...	13	Grades.....	Grass, meal and hay.....	14	1·07	Condition good; stable clean.
1	do ...	13	do	do do	13·5	1·03	
1	do ...	19	do	do	16	·84	Condition poor.
.....	do ...	9	do	do and pea meal.....	13	1·44	excellent.
1	do ...	10	do	do and chopped oats..	10	1·00	
1	E. York...	11	do	do meal and shorts....	11	1·00	
1	W. York...	5	do Jersey	do	5	1·00	
1	E. York...	5	do	do tares and oats.....	5·5	1·10	
1	do ...	6	do	do clover, hay and shorts.	7·5	1·25	
2	do ...	10	do	do	9·5	·95	Condition thin.
2	do ...	6	do	do	5	·83	do poor; does not sell his milk.
2	do ...	4	do	do	4	1·00	Does not sell his milk.
1	W. York...	15	do	Grains, 3 qts. twice a day and grass.	15·5	1·03	
1	E. York...	8	do	Bran, ½ gallon once a day and grass.	8	1·00	
1	do ...	20	do	Grains, 1 peck twice a day and grass.	30	1·50	
1	W. York...	4	do	Grass	2	·50	
1	E. York...	15	do	Meal, 2 qts. twice a day, grains and grass.	17	1·1	
.....	....	9	do	Grass	.....	.....	
2	W. York...	10	do	Grains, ½ bush. twice a day, green corn and grass.	14	1·4	
2	do ...	12	do	Meal, grains, tares, oats and grass.	18	1·5	
1	do ...	13	do	Grains, 1 shovel, ½ gallon meal twice a day and grass.	13	1·0	
1	do ...	27	do	Grains and grass.....	30	1·1	
2	E. York...	10	do	Grass, corn and oats.....	10	1·0	
3	do ...	24	do Jersey	Bran and grass.....	24	1·0	2, pure Jersey; 14, half Jersey; 8, common.
1	do ...	21	do	Meal, hay, pasture and 1 peck of grains.	23	1·1	
1	do ...	5	do	Pasture and hay..	3	·6	
1	W. York...	7	do	Grass.....	6·5	·9	

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No.	Spec. Gravity.	Fat.	Solids not Fat.	Total Solids.	Remarks.	Date.	Time.	Name.	Location.
									Lot.
397	1031·2	3·03 3·12	9·26 9·14	12·29 12·26	....	July 26	p.m.	H. St. Germain.....	7-8
398	1029·8	4·50 4·44	8·57 8·55	13·07 13·09	....	do 27	a.m.	G. McCormick.....	7
399	1030·1	4·16 4·15	8·52 8·47	12·68 12·62	....	do 27	a.m.	W. Arden	6
7001	1030·7	3·17 3·20	8·79 8·77	11·96 11·97	....	do 27	p.m.	P. Chapman.....	....
7002	1029·5	3·18 3·18	8·48 8·50	11·66 11·68	....	do 27	p.m.	W. Hill.....	17
7003	1030·7	3·73 3·67	8·58 8·71	12·31 12·38	....	do 28	a.m.	S. Wood.....	7-8
7004	1030·8	3·36 3·36	8·81 8·82	12·17 12·18	....	do 28	a.m.	J. Coulter	7
7005	1031·6	3·29 3·28	8·74 8·73	12·03 12·01	....	do 28	p.m.	W. Empringham.....	16
7006	1032·1	2·74 2·70	8·65 8·73	11·39 11·43	....	do 28	p.m.	J. Breakey	15
7007	1032·5	2 79 2·75	8·87 8·90	11·66 11·65	....	do 28	p.m.	G. Wood.....	11

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Concession.	Township.	No. of Cows.	Breed.	Feed.	Quantity per herd.	Quantity per Cow.	Remarks.
					Galls.	Galls.	
1	W. York...	10	Grades.....	Grass and hay.....	7	·7	3 of herd in farrow.
1	do ...	8	do	do	.....	.....	
1	E. York...	14	do	do grains, hay, green oats and tares.	10	·7	
.....	W. York...	4	do	do	.....	.....	
.....	do ...	16	do	do green corn and 2 galls. bran a day.	11	·7	
1	Etobicoke.	8	do	do	6	·7	
.....	W. York...	11	do	do	7	·63	
3	do ...	6	do	do and hay.....	.....	.....	
2	do ...	10	do	do ½ bushel grains and green corn twice a day.	14	1·4	
1	do ...	5	do	do shorts and bran.....	22	1·5	

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Collection of Samples.

The samples of milk were taken by myself and the Collector of Inland Revenue or his deputy in the following manner:—After seeing the cows milked and the milk poured from the pails into the cans in which it was to be carried to market, we took a sample from each can after thoroughly mixing its contents and mixed these samples together in a clean vessel. The same quantity of milk was taken from each can unless one of them was only partly full in which case a proportionally smaller quantity was taken from such can.

The contents of the vessel containing these samples from each can having been thoroughly mixed, two bottles were filled from it, labelled and placed in a box contained in a larger box, the space between the two boxes being filled with ice. One of these bottles was sent to the Chief Analyst at Ottawa, the other was retained for analysis, which was begun immediately on returning to the laboratory in the case of morning milk, and the first thing next morning in the case of evening milk.

Methods of Analysis.

The samples were all analyzed by the method prescribed by the Society of Public Analysts for Great Britain (Analyst, 1885, pp. 46 *et seq*).

The specific gravity was taken by a plummet attached to the beam of an Oertling's balance.

The total solids were dried on the water bath in shallow platinum dishes to constant weight.

Tee milk intended to be used for the extraction of the fat was absorbed by coils of Sweedish filter paper previously exhausted by light petroleum, the coils were dried for one hour in the water oven treated with light petroleum for two hours in a Saxhlet extraction apparatus, the petroleum evaporated and the fat weighed in a light flask after drying to constant weight in a water oven.

The number of cows in the herds was in all 390, omitting two cases, where the milk from the same herd was taken a second time, and the yield of milk per cow was a little less than 1·12 gallons. The maximum yield was 1·5 gallons per cow, and the minimum ·60.

Results.

The samples of milk numbered 371 and 372 had turned sour before the analysis was begun, and the determination of fat by the Adam's method was in their case worthless; neglecting these two samples the results of the remaining thirty-five samples may be expressed as follows:

	Total Solid.	Fat.	Solids not Fat.
Maximum	13 48	4·87	9·26
Mean.....	12·27	3·56	8·71
Minimum.....	10·77	2·70	8 00

My results agree closely with the analyses of the same milk made in the Chief Analysts Laboratory by the Asbestos' method, and published in Bulletin No. 1. These are:

	Total Solids.	Fat.	Solids not Fat.
Maximum	13·47	4·50	9·28
Mean.....	12·08	3·38	8·70
Minimum.....	10·68	2·52	8·17

It will be seen that while the solids and fat obtained by the method of the Society of Public Analysts are both a little higher than those arrived at by the Asbestos process, the solids not fat are practically identical. Since it is upon the percentage of solids not fat, that an opinion as to the genuiness of a sample milk has to be based, this agreement is highly satisfactory.

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The conclusion is inevitable from these analyses, that the limits fixed by the Society of Public Analysts, below which no milk is to be passed as genuine, are too high. That is, we cannot say that a milk which contains less than 8·5 per cent. of solids not fat has been watered, for by this standard Nos. 380, 384, 385, 388 and 392, or five samples out of thirty-seven, that is 13·5 per cent. of the milks analyzed, would be condemned as adulterated. Similarly neglecting No. 371, which was sour, we find that Nos. 388, 389, 392, 7006 and 7007, or five samples out of 37 or 13·5 per cent., fall below the limit of 3 per cent. of fat, and would by that standard be condemned. It is interesting, however, to observe that only three samples fall below the limit of 11·5 per cent. of total solids, and of these two, Nos. 394 and 7006, are so little below that they would probably be passed. One sample, No. 385, falls much below th standard giving the following remarkable analysis:

Solids	10·78
Fat	2·78
Solids not Fat	8·00

This sample was taken on the evening of July 21st. The day was excessively hot and the men upon the farm were engaged in the harvest field until very late, so that the cows had to wait much beyond their usual time before being milked. Whether this had anything to do with the low yield I cannot say. On the evening of the 28th I took another sample from the same herd with the following result:—

Solids	11·41
Fat	2·72
Solids not Fat	8·69

In this sample while both the total solids and the fat are below their respective limits, the solids not fat are almost up to the general average of 8·7 per cent. and are well above the limit of 8·5 per cent.

If this batch of 37 samples of genuine milk had been sent to a member of the Society of Public Analysts, analyzed by the methods and judged by the limits of the Society, 8 samples or 21·6 per cent., that is, more than one sample in every five would have been reported as either skimmed or watered.

It follows from the foregoing that a dealer might take 100 gallons of milk of average quality and add to it 10 gallons of water, and yet it would not be possible from the analysis to say positively that it was not genuine. Under these circumstances it would appear to me highly desirable, both in the interests of the public and of the dealer that some regulation such as that suggested in the bulletin of the Chief Analyst should be adopted, which would require the milk sold to be of "good standard quality."

Until such a regulation is passed I do not see how analysts who adopt an efficient, modern method for the extraction of the fat, can assert that a milk has been adulterated by admixture with water if the solids not fat are higher than 8 per cent. or that it has been skimmed if the fat is more than 2·5 per cent.

I have the honour to be, Sir,

Your obedient servant,

W. H. ELLIS.

To the Commissioner of Inland Revenue.

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DISTRICT OF MANITOBA.

PARTIAL REPORT ON WATERS.

Samples from Portage la Prairie.

WINNIPEG, June, 1888.

5788.

For all operations and tests of sample, portion used was filtered.

Only a very minute deposit occurred in sample, which was of a grey earthy color. Sample remained bright and clear.

A darkening took place on incinderation after incinderation the residue or ash was of a silvery-grey; under the microscope the collected sediment proved to be inorganic matter of a clay nature.

This well is so situated that perfect drainage undoubtedly occurs, being on the slope of a hill and above the river by about 75 feet; the immediate soil is sandy gravel.

I consider this a pure water, very free from organic manner.

1789.

For all the operations and tests portion used was filtered. A considerable deposit took place of a dark brown flocculent appearance, which, under the microscope, had a yellowish tinge and of a fungaia nature, no definite organization being perceived.

The solids darkened on incinderation, the ash being greyish white.

This well is situated on a hill and is above the level of the river level by about 150 feet. The soil is large gravel, with exception of the first two feet of top soil, which is a black sandy loam. This well is about 25 feet deep. From the situation and surroundings, I would consider that good natural drainage exists.

I consider this water a pure sample, and safely free from organic matter.

5790.

Sample clear and bright, containing very slight sediment of a dark brown color under the microscope. This deposit was found to be devoid of regular structure. Solids on incinderation darkened, leaving a whitish grey ash.

This well is situated so that good drainage should occur like the other well reported upon, it is on a slope and above the river level. The soil is sandy from within two feet of the surface to the bottom of the well, which is thirty feet deep.

This water I consider organically safe.

5791.

This sample was clear although a heavy precepitate was contained. An offensive odor was emitted when first taken from bottle containing sample; this was removed after being exposed to the atmosphere for a short time. This sediment under the microscope was found to contain vegetable tissue, and vegetable-like matter without the regular structure, as well as some animal life, this animal life being of two distinct forms only, and not numerous. Some starchy matter was also shown to be present.

This sample gave results in free and albuminoid ammonia so close to results obtained in the other three samples from this locality as to make it difficult to consider this water different to the others, but as all the samples have been subjected to the same temperature and conditions, and this only contained living organisms, I cannot consider it as free from organic matter as the other samples. The amount of albuminoid ammonia is greatest over that received as free in same sample.

This well is situated in the rear of the most important commercial hotel in the town, the well being some feet below the level of the buildings and inclining towards the river. Depth about twenty feet, soil sandy.

This well has been abandoned for some time for domestic purposes on account of its great hardness; is occasionally used for watering cattle on.

J. EDWARD WRIGHT, Junior.

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APPENDIX B.

Memorandum showing the Number of Samples the Inspectors were authorized to submit to the Public Analyst of the various Districts, for the Year ending 30th June, 1888.

Inspector.	District.	Butter.	Cheese.	Cream of Tartar.	Coffee.	Drugs.	Liquors.	Milk.	Spices.	Vinegar.	Water.	Total Cost.
												$ cts.
J. C. Ferguson.	Nova Scotia	12	20	5	16	.....	37	17	32	50	25	1,593 00
do	New Brunswick.	10	15	5	10	.....	20	18	25	40	20	1,190 00
J. J. Costigan...	Quebec.....	43	8	5	10	.....	25	18	25	.....	20	1,238 00
do ...	Montreal.	22	34	5	15	.....	31	18	32	.....	25	1,482 00
Thos. Webster...	Kingston.	9	8	6	10	25	25	18	25	.....	25	1,224 00
do ...	Toronto.....	14	8	5	15	32	47	18	32	.....	25	1,594 00
do ...	London.....	6	10	.....	.....	.....	.....	.....	.....	.....	.....	128 00
do ...	Manitoba	.....	.....	5	10	....	25	.....	25	.....	20	740 00
	Total.	116	103	36	86	57	210	107	196	90	160	9,189 00

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APPENDIX C—INSPECTION OF FOOD AND

BUT

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.	Results of	
							Water.	Salt.
1888.							p. c.	p. c.
June 16	M. Bowman	Nova Scotia	128	E. Lowther	Amherst	7151	7·22	3·24
do 16	do	do	129	Bent & Mosher	do	7152	11·55	10·40
do 16	do	do	130	T. & W. Snook	Truro	7156	8·10	7·62
do 16	do	do	131	Black & Co.	do	7157	7·85	4 85
do 16	do	do	132	C. & W. Anderson	Halifax	7161	10·80	1·15
do 16	do	do	133	Ed Donohue	do	7162	8·80	2 50
do 16	do	do	134	Burgess & Wood	Windsor	7169	7 93	7·70
do 16	do	do	135	Curry & Shaw	do	7170	6·88	9·62
do 16	do	do	136	Wm. Malcolm	Annapolis	7178	7 90	11 00
do 16	do	do	137	Pickles & Mills	do	7180	12·30	8 53
do 16	do	do	138	Lynch Bros	Digby	7174	6.81	12·68
do 19	do	do	139	Turnbull & Welsh	do	7175	7·27	3·25
May 30	W. F. Best	N. Brunswick	484	A. McMullen	St. John	7187	6·59	3 50
do 30	do	do	485	P. McCarthy	do	7188	10·20	3·40
do 30	do	do	488	H. O. Hill	St. Stephen	7192	4·70	6·10
do 30	do	do	489	H. & P. McKenna	do	7193	7·45	5·20
do 30	do	do	492	T. Williamson	St. Andrews	7196	7·80	4·60
do 30	do	do	495	Frank Mowatt	do	7199	8·30	6·25
do 30	do	do	496	G. T. Whipley	Fredericton	5905	9·20	3·50
do 30	do	do	497	W. R. Logan	do	5906	8·50	4·50
do 30	do	do	501	H. N. Payson	Woodstock	5910	7 00	5·00
do 30	do	do	502	John Graham	do	5911	8·50	3·75
do 21	M. Fiset	Quebec	974	F. Latulippe	Quebec	7304	9·60	3.28
do 21	do	do	975	N. Pouliot	do	7305	13·70	3·00
do 26	do	do	977	N. Fournier	St. Thomas	7307	9·05	3·70
do 26	do	do	978	O. Bernatchey	do	7308	7·05	3·80
do 26	do	do	979	J. Lavitte	St. Charles	7309	11·48	5·00
do 26	do	do	980	F. Momette	do	7310	10·85	2 70
do 26	do	do	981	J. Morisette	do	7311	8·20	5·75
do 26	do	do	982	Dery & Demers	do	7312	10·70	3·55
do 26	do	do	984	Joseph Gerard	do	7314	8·20	2·50
do 26	do	do	985	Joseph Nadeau	do	7315	15 80	2·90
do 26	do	do	987	John Sutcliffe	Lévis	7317	7·80	5 60
do 26	do	do	988	do	do	7318	9·20	18·20
do 26	do	do	990	Philip Lemeaux	do	7320	8·40	4·20
do 26	do	do	991	Louis Bourget	do	7321	11·20	4·20
do 26	do	do	993	P. Ouellitt	St. Mary's	7323	10·70	3·80
do 26	do	do	994	Alphonse Blouin	do	7324	10·70	5·40
do 26	do	do	995	Israel Lebonne	do	7325	12 00	5 30
do 26	do	do	996	Pierre Vieux	do	7326	10·40	2·20
June 20	do	do	997	W. L. Duhame	St. Paschal	7335	11·00	3·50
do 20	do	do	998	O. Chasse	St. Phillipe	7336	9 40	4·20
do 20	do	do	999	A. Dionne	St. Dennis	7337	10·40	4·20
do 20	do	do	1000	J. Pelletier	Riv Ouelle	7338	9 00	3·70
do 20	do	do	801	F. Gendron	St. Ann's deL	7339	8·40	4·40
do 20	do	do	802	Léon Leclerc	do	7340	6·70	3·10
do 20	do	do	803	H. Hebert	St. Thomas	7341	10·80	4·00
do 20	do	do	804	N. Bernatchez	do	7342	12 20	3·80
do 21	do	do	805	M. Lelois	do	7343	7 40	4·50
do 21	do	do	806	Jacques Colin	St. Pierre	7344	10 80	4·40
do 21	do	do	807	G. Lebowmeau	do	7345	13·20	5·10
do 22	do	do	808	P. Hout	Quebec	7346	6·80	2·90
do 22	do	do	809	D. Falardeau	do	7347	10 00	3·44
do 22	do	do	810	G. N. Pelletier	do	7348	8·50	2·76
do 22	do	do	811	J. L. Herault	do	7349	8·70	3·80
do 22	do	do	812	Arthur Drolet	do	7350	7·60	4·30

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DRUGS—Tabulated Statement, &c.—*Continued.*

TER.

Analysis.		Specific Gravity of Fat at 100.	Melting Point.	Microscopical Examination.	Observations and Remarks.
Curd.	Fat.				
p. c.	p. c	p. c.	p. c.		
·59	86 95	·913	.....	.....	Unadulterated.
·62	77·45	·911	.....	.....	Adulterated according to Act by excess of salt.
·55	83·73	·912	.....	.....	Unadulterated.
1·90	85·42	·912	.....	.....	do
1·17	86 88	·912	.....	.....	Adulterated, being mouldy and unfit for food.
1·80	86·90	·911	.....	.....	Unadulterated.
·70	83·67	·910	.....	.....	do
·80	82·70	·913	.....	.....	Adulterated according to Act by excess of salt.
1·50	79 60	·912	.....	.....	do do
·75	78·42	·911	.....	.....	do do water.
1·05	77 46	·913	.....	.....	do do salt.
·83	88·65	·912	.....	.....	Unadulterated.
1·30	88·70	·915	93·	Normal.	do
2·80	78·60	·910	95·	.....	Adulterated with water and salt.
5·90	83·30	·905	84·	.....	do beef fat.
4·65	82·70	·906	90·	.....	do a small amount of foreign fat.
2·40	85·80	·901	95·	.....	Unadulterated.
1·00	84·85	·912	95·	.....	do
1·90	85·40	·912	95·	.....	do excellent quality.
2·75	84·25	·910	95·	.....	do do
2·30	85·70	·910	95·	.....	do
1·25	86·50	·912	95·	.....	do
·52	86·60	·912	32·	.....	Genuine, but a little too much water.
·75	82·55	·912	34·	.....	Adulterated with water.
·60	86·63	·911	32·	.....	Genuine.
·85	88·30	·912	32·	.....	Good.
1·35	82·17	·911	33·	.....	Genuine, but too much water.
1·05	85 49	·910	32·	.....	do do
1·10	84·95	·912	33·	.....	do do salt.
·95	84 80	·914	34·	.....	Genuine, but too much water.
·70	88 60	·913	32·	.....	do
·70	80 60	·9.0	31·	.....	do do do
·60	86·80	·912	32·	.....	do
·40	72·20	·910	31·	.....	Adulterated with too much salt and water, which are in excess; poor quality.
·80	86·60	·913	32·	.....	Good.
·80	83·80	·912	33·	.....	do
·60	84·90	·912	32·	.....	do
·70	83 40	·912	32·	.....	Genuine; too much salt.
·70	82·00	·913	33·	.....	do do
1·40	86 00	911	33·	.....	do
1 50	84 00	·912	34·	.....	do and good.
1·70	84 00	·910	32·	.....	do
1·40	84·00	·911	31·	.....	do
1 60	85·70	·912	32·	.....	do
2·20	86·00	·913	33·	.....	do
1·40	88 80	·911	31·	.....	do and good.
·80	84·40	·910	32·	.....	do
2·40	81·60	·911	32·	.....	do too much water.
·80	87·20	·913	34·	.....	Good.
·70	84·10	·911	33·	.....	do
·80	80 90	·910	33·	.....	Genuine; too much water.
·60	89·70	·913	34·	.....	Good.
·66	85 90	·912	34·	.....	Genuine.
·64	88·10	·911	32·	.....	do and good.
·60	86 90	·909	31·	.....	do do
·30	87·80	·912	33·	.....	Good.

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APPENDIX C.—INSPECTION OF FOOD AND

BUTTER—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.	Result of	
							Water.	Salt.
1888.							p. c.	p. c.
June 29	M. Fiset	Quebec	813	T. Lagomère	St. Anne	7351	10·20	9·60
do 29	do	do	814	J. H. Laganière	St. Anne	7352	11·60	5·60
do 29	do	do	815	N. Germain	do	7353	6·50	3·80
do 29	do	do	816	J. H. Laganière	do	7354	9 80	3 60
do 29	do	do	817	J. B. Demas	St. Cassine	7355	7·80	3·40
do 29	do	do	818	John Tessier	do	7356	10·00	3·40
do 29	do	do	819	Labisson. Lanouette	Batiscan	7357	10 90	3·70
do 29	do	do	820	L. Lahaye	do	7358	7·60	4·40
do 29	do	do	821	M. Marquis	do	7359	9 40	3·50
Mar. 13	J. B. Edwards	Montreal	1329	Joseph Brosseau	Montreal	7279	3·00	6·90
do 13	do	do	1330	M. Valier	do	7280	3·60	7·80
June 20	do	do	1373	Albert Garth	St. Theresa	7327	9·	1·2
do 20	do	do	1374	do	do	7328	12·7	12·0
do 20	do	do	1375	Alex. Miller	do	7329	16·00	1·33
do 20	do	do	1376	G. D. Leclair	do	7330	5·6	2·
do 20	do	do	1377	E. Brunette	St. Eustache	7331	10·2	2·8
do 20	do	do	1378	G. Paiement	do	7332	12·1	4·0
do 20	do	do	1379	G. B. Berthiau	River Gagnon	7333	14 0	2·0
do 20	do	do	1380	St. Theresa Seminary	St. Theresa	7334	10·00	3·33
do 28	W. H. Ellis	Toronto	2537	John Sloan	Galt	7901	8·48	2·22
do 28	do	do	2538	Ed. Morrith	do	7903	12·88	1·94
do 28	do	do	2539	W. P. Clay	do	7905	10·83	2·35
do 28	do	do	2540	J. Sloan	do	7906	11·62	4·27
do 28	do	do	2541	Jackson & Hallett	do	7908	9·61	2·19
do 28	do	do	2542	Robt. Mitchell	do	7909	10·33	1·59
do 28	do	do	2553	Farmers Dairy Co	Hamilton	7910	10·1	1·1
do 28	do	do	2554	W. J. O'Brien	do	7911	14·6	3·9
do 28	do	do	2555	do	do	7912	6·6	2·3
do 28	do	do	2556	do	do	7913	14·1	2·5
do 28	do	do	2557	V. E. Fuller	do	7914	14·1	1·0
do 28	do	do	2558	J. Osburne & Son	do	7915	13·3	5·1
do 28	do	do	2559	Park & Son	do	7925	9·4	6·1
do 28	do	do	2560	do	do	7926	9·0	2·6

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DRUGS—Tabulated Statement, &c.—*Continued.*

Concluded.

Analysis.		Specific Gravity of Fat at 100.	Melting Point.	Microscopical Examination.	Observations and Remarks.
Curd.	Fat.				
p. c.	p. c.	p. c.	p. c.		
3·50	76·70	·911	32·	.....	Genuine; too much salt and caseine.
·80	82·	·912	32·	.....	Genuine.
·70	89·	·913	33·	.....	Good.
·40	86·2	·911	32·	.....	Genuine.
·80	88·00	·912	33·	.....	Good.
1·20	85·40	·911	32·	.....	Genuine.
·80	84 60	·910	32·	.....	do
1·30	86·70	·913	33·	.....	Good.
1·00	86·10	·912	33·	.....	do
1·20	88·90	.....	99·	Crystals other than butter.....	Adulterated under Act, as containing foreign fat substance of inferior nature and value to the extent of 20 per cent.
1·30	87·30	.....	.....	do do ...	Adulterated under Act, by addition of foreign fats of inferior nature and value to the extent of about 20 per cent.
Trace.	89·8	·910	92½·	Nothing abnormal...	Genuine.
"	75·3	·910	91·5	do ...	do with excess of salt moisture.
"	82·67	·912	91·	.....	do but with large excess of water.
"	92·40	·910	92	Nothing abnormal...	do good standard butter.
"	87·2	·910	92·	do ...	do slight excess of water.
"	83·9	·910	92·	do ...	do water in excess.
"	84 0	·910	92·	do ...	do but containing a large excess of moisture.
"	86·67	·910	92·	do ...	do
3·30	86·00	.....	.....	No foreign fat.....	do
1·42	83·76	.....	.....	do	do
1·96	84 86	.....	.....	do	do
3·14	80·97	.....	.....	do	do
88·20		.....	.....	do	do
88·08		.....	.....	do	do
1·5	87·3	.....	.....	do	do
1·7	79·8	.....	.....	do	do
1·3	89 8	.....	.....	do	do
1·6	81 8	.....	.....	do	do
1·0	83 9	.....	.....	do	do
1·4	80·2	.....	.....	do	do
1·5	83·0	.....	.....	do	do
·9	87·5	.....	.....	do	do

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Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1886.						
June 30...	M. Bowman.....	Nova Scotia...	140	McKinnon & Co.....	Amherst	7153
do 30...	do	do ...	141	B. W. Robinson.....	do	7154
do 30...	do	do ...	142	J. F. Layton.....	do	7155
do 30...	do	do ...	143	G. J. McLeod.....	Truro	7156
do 30...	do	do ...	144	McKay & Ross.....	do	7159
do 30...	do	do ...	145	Daniel Gunn.....	do	7160
do 30...	do	do ...	146	J. D. Stewart.....	Halifax.....	7163
do 30...	do	do ...	147	H. V. Weir.....	do	7164
do 30...	do	do ...	148	C. Graham & Co	do	7165
do 30...	do	do ...	149	J. Creighton.....	Richmond	7166
do 30...	do	do ...	150	S. Snedley.....	do	7167
do 30...	do	do ...	151	Robt. Wright.....	do	7168
do 30...	do	do ...	152	E. C. Shaw	Windsor.....	7171
do 30...	do	do ...	153	J. P. Smith.....	do	7172
do 30...	do	do ...	154	F. R. Smith	do	7173
do 30...	do	do ...	155	Guplik & Young.....	Digby.....	7176
do 30...	do	do ...	156	W. J. Turnbull.....	do	7177
do 30...	do	do ...	157	Wm. Malcolm.....	Annapolis.....	7179
do 30...	do	do ...	158	W. E. Jefferson.....	do	7181
May 30...	W. F. Best.....	N. Brunswick.	480	A. C. Wilson.	St. John	7183
do 30...	do	do ...	481	H. C. Normansell.....	do	7184
do 30...	do	do ...	482	John McCann.....	do	7185
do 30...	do	do ...	483	J. E. Cowan.....	do	7186
do 30...	do	do ...	486	Samuel Tufts.....	do	7189
do 30...	do	do ...	487	G. Robertson.....	do	7190
do 30...	do	do ...	490	Marchis Bros.	St. Stephen....	7194
do 30...	do	do ...	491	Inches & Rimmer....	do ...	7195
do 30...	do	do ...	493	Thos. Williamson....	St. Andrews...	7197
do 30...	do	do ...	494	F. S. DeWolfe	do ...	7198
do 30...	do	do ...	498	J. Owens	Fredericton ...	5907
do 30...	do	do ...	499	S. L. Morrison.....	do ...	5908
do 30...	do	do ...	500	P. Sweeney.....	do ...	5909
do 30...	do	do ...	503	G. W. Slepp.....	Woodstock....	5912
do 30...	do	do ...	504	J. C. Cote & Son.....	do ...	5913
do 21...	M. Fiset.....	Quebec.....	971	Saucey & Bedard....	Quebec.....	7301
do 21...	do	do	972	J. Turcott	do	7302
do 21...	do	do	973	Paquet & Potvin.....	do	7303
do 21...	do	do	976	Berube & Chouinard	do	7306
do 21...	do	do	983	E. Bedard	Lévis.....	7313
do 21...	do	do	986	John Sutcliffer.....	do	7316

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DRUGS—Tabulated Statement, &c.—*Continued.*

Results of Analyses.					Microscopical Examination.	Observations and Remarks.
Moisture.	Fat.	Caseine.	Ash. Soluble.	Ash. Insoluble.		
p. c.	p. c.	p. c.	p. c.	p. c.		
28·49	28·93	.....	3·64		.....	Unadulterated.
24·48	36·31	.....	4·35		.....	do
32·44	29 46	.....	3·61		.....	do
23 50	36·53	.....	4·36		.....	do
21·97	34·40	.....	4 66		.....	do
25·35	33·29	.....	4·12		.....	Adulterated with foreign fat.
17·77	37 88	.....	4·06		.....	Unadulterated.
25·94	34 52	.....	5·28		.....	do
23·62	34·08	.....	4·97		.....	Adulterated with foreign fat.
21·12	34 50	.....	5·46		.....	Unadulterated.
23·94	31 91	.....	5·28		.....	do
20·82	37·47	.....	4·45		.....	Adulterated with foreign fat.
20·77	34·12	.....	4·06		.....	Unadulterated.
21·96	33·33	.....	4·06		.....	do
22·74	36·72	.....	4·16		.....	do
21·27	34·04	.....	4·53		.....	do
23·66	32·63	.....	4·51		.....	do
24·24	31·83	.....	4·24		.....	do
21·81	29·79	.....	5·02		.....	do
21.95	36·40	41·65	.....	5·10	Red, green and blue fungus on exterior and in the interior of the cheese.	No farinaceous matter present; not adulterated.
24·45	30·25	45·30	.....	4·75	Fungus growth on outside and in the interior, chiefly aspergithus glaucus.	No farinaceous matter present; not adulterated.
29·50	29·25	42·25	.....	4·25	Abundant growth of fungus penetrating all parts of the cheese.	Not adulterated with foreign matter nor foreign fat, but poorly made.
35·40	29·20	35·40	.....	3·25	Large quantity of white, red and green mould; texture of the cheese soft and moist.	Unadulterated, but of bad keeping quality and poor flavour; no farinaceous admixture.
23·15	38·20	38·65	.....	3·50	.....	Not adulterated.
28·75	35·35	40·90	.....	4·20	.....	do
36·75	29·50	33·75	.....	1 85	.....	Not adulterated, but contains too much water and is a poor keeping quality.
29·10	39·65	40·25	.....	2·45	.....	Not adulterated.
26·20	29·60	34·20	.....	2·10	.....	do
24·75	20·00	49·25	.....	1·90	.....	do
29·20	26·50	39·30	.....	1·70	.....	do
28·40	31·45	40·15	.....	1·95	.....	do
23·70	25·50	42·80	.....	1·80	.....	do
28·50	25·50	46·00	.....	2·75	.....	do
23·75	38·25	38·00	.....	3·20	.....	do
28·30	36·20	27·10	3 40		No farinaceous admixture.	Good.
31·70	35·50	29 54	3·26		do ...	do
28·95	28·10	28 95	4 00		do ...	do
26·20	33·80	26·90	3·10		do ..	do
29·00	32·00	36·20	2·80		do ...	do
21·60	38·60	26·40	3·40		do ...	do

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APPENDIX C—INSPECTION OF FOOD AND

CHEESE—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1888.						
May 21...	M. Fiset.....	Quebec.	989	L. H. Begin.	Lévis	7319
do 21...	do	do	992	M. Ladreire	Bienville..	7322
do 3...	J. B. Edwards	Montreal	1349	M. L. Hislop...	St. Johns.....	7281
do 3...	do	do	1350	F. X. Dulande	do	7282
do 3...	do	do	1351	Payne & Bradford....	Granby	7283
do 3...	do	do	1352	Joseph Bouin	do	7284
do 19...	do	do	1353	E. A. Pinchard.....	Montreal	7285
do 19...	do	do	1354	P. G. Callahan.....	do	7286
do 19...	do	do	1355	Wm. McGowan	do	7287
do 19...	do	do	1356	J. D. Allan & Co	do	7288
do 21...	do	do	1357	P. Desormiers	do	7289
do 21...	do	do	1358	Joseph Dagenais.....	do	7290
do 21...	do	do	1359	Vanier Bros.....	do	7291
do 22...	do	do	1360	Thos. Gauthier..	do	7292
June 1...	do	do	1361	Boright & Soule.....	Cowansville...	001
do 1...	do	do	1362	Wood & Bodin.....	do ...	002
do 1...	do	do	1363	A. J. Lawrence.....	Stanstead.....	003
do 4...	do	do	1364	H. A. Channell.....	do	004
do 4...	do	do	1365	R. & J. Kerr..... ...	Sherbrooke	005
do 4...	do	do	1366	McDonald Bros.....	do	006
do 8...	do	do	1367	R. F. McKee.....	Richmond	007
do 8...	do	do	1368	Hudon Caron.....	do	008
do 8...	do	do	1369	O. Brodere.....	St. Hyacinthe.	009
do 8...	do	do	1370	Paynuile Bros	do ...	0010
do 8...	do	do	1371	do	do ...	0011
do 8...	do	do	1372	M. Hodge.....	Montreal.....	0012

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DRUGS—Tabulated Statement, &c.—*Continued.*

Continued.

Results of Analysis.						
Moisture.	Fat.	Caseine.	Ash. Soluble.	Ash. Insoluble.	Microscopical Examination.	Observations and Remarks.
p. c.	p. c.	p. c.	p. c.	p. c.		
24·60	48·40	23·40	3·60		....	Good.
22·20	50·40	23·80	3·60		....	do
20·00	34·60	41·42	2·78	1·2	No insect life or starch.	Unadulterated; somewhat rank in flavor with excess of lactic acid.
20·00	35·00	40·94	2·82	1·24	Well developed blue and white mould; aspergillus; glaucum; no mites.	A good cheese; unadulterated.
10·60	26·60	47·96	2·82	2·	No decomposition or starch.	A poor and sour cheese, but unadulterated.
12 00	25·00	57·58	3 80	1·62	No mites; blue and red mould, &c., growing freely	Unadulterated; not a rich cheese, but good for immediate consumption.
14·04	24·80	50·74	8·18	2·24	Covered with blue and white mould in active growth.	Unadulterated.
17·64	24·60	52·54	3·02	2·20	Blue, white and yellow mould in active growth and great abundance.	Not adulterated.
10·66	35·60	49·72	1·8	2·22	Large growth of mould chiefly pencillium and aspergillus.	Unadulterated, but salt insufficient for preservation and will not keep good.
17·6	26 40	51 58	2·24	2·18	Very mouldy.....	Unadulterated, but badly cured, salt insufficient for preservation.
22·04	31·60	42·64	2·20	1·52	do	Not adulterated, but insufficient salt for preservation.
18·06	34·00	45·06	1·16	1·72	Active growth of blue and white mould.	Not adulterated, but of bad keeping, quality being deficient in salt.
16·14	29·60	50·92	·9	2·44	Highly fungoid, full growth of mould covering surface.	Not adulterated, but badly cured.
11·62	32·46	52·76	·44	2·78	Very mouldy.....	Not adulterated, but badly cured, and unwholesome food, deficient in salt.
16·26	39·10	42 97	1·24	2·10	Soon becomes mouldy	Unadulterated; insufficient salt, but a rich cheese.
27·82	25·28	42·82	2·38	1·70	Free from parasites, mites and fungi.	Unadulterated.
20·14	26·26	49·32	2·50	1·78	Prone to mould.....	do
13·84	36·16	46 38	1·90	1·72	Free from fungi.	do and a rich cheese.
24·84	35·16	36·52	1·48	2·00	Nothing extraneous.	do do
16·42	36·28	43·98	3·32		do abnormal. ..	do do
19·66	45·34	33·13	1·62	2·12	Soon becomes mouldy owing to excess of water and lack of salt.	do but a rich cheese.
12 94	33·6	50·38	1·70	1·92	Soon becomes mouldy	Unadulterated.
15·24	38·76	42·46	1·52	2·02	Nothing abnormal ...	do. and rich cheese.
21·34	23·30	52·54	·82	2 00	....	Poor cheese; very soon hard and mouldy from excess of water and deficiency of butter. Unadulterated
12 00	39 90	45·04	1·06	2·00	Nothing abnormal ...	Unadulterated; very rich, and of good quality.
18·26	30·26	49·26	·92	1·30	do ...	Unadulterated, and a rich cheese.

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APPENDIX C—INSPECTION OF FOOD AND

CHEESE—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1888.						
June 28...	W. H. Ellis.....	Toronto	2544	Edwin Morrish.....	Galt.....	7902
do 28...	do	do	2545	W. P. Olay.....	do	7904
do 28...	do	do	2546	Jackson & Hallett...	Guelph.....	7907
do 28...	do	do	2562	C. H Peebles.....	Hamilton.....	7916
do 28...	do	do	2563	W. McCushee.....	do	7917
do 28...	do	do	2564	Swan Bros.	Toronto	7924
do 28...	do	do	2565	J. Richardson.....	do	7931

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DRUGS—Tabulated Statement, &c.—*Continued.*

Concluded.

Results of Analysis.					Microscopical Examination.	Observations and Remarks.
Moisture.	Fat.	Caseine.	Ash. Soluble.	Ash. Insoluble.		
p. c.	p. c.	p. c.	p. c.	p. c.		
27·75	26·50	40·65	5·10		....	Genuine.
23·77	25·26	46·35	4·62		....	do
24·05	31·25	40·90	3·80		....	do
14·7	42·10	38·5	4·7		....	do
18·7	39·0	37·8	4·5		....	do
18·0	37·2	40·1	4·7		....	do
21·3	36·7	37·7	4·3		....	do

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APPENDIX C—INSPECTION OF FOOD AND MILK.

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1887.						
Oct. 1...	Maynard Bowman....	Nova Scotia.....	16	Thomas Whalen.....	Halifax	5376
do 1...	do ...	do	17	William Debay.....	do	5377
do 1...	do ...	do	18	John McInnis.....	do	5378
do 1...	do ...	do	19	Ann Regan.....	do	5379
do 1...	do ...	do	20	Mrs. Eliza Neville....	do	5380
do 1...	do ...	do	21	Mrs. Mary Burns.....	do	5381
do 1...	do ...	do	22	Mary Tobin.....	do	5382
do 1...	do ...	do	23	M. J. Wahar.....	do	5383
do 1...	do ...	do	24	William Forsythe....	do	5384
do 1...	do ...	do	25	Thomas Sullivan.....	do	5385
do 1...	do ...	do	26	Patrick Shea	do	5386
do 1...	do ...	do	27	Charles Craig.....	do	5387
do 4...	do ...	do	28	N. K. Dickson.....	do	3322
do 4...	do ...	do	29	William McGregor...	do	3323
do 4...	do ...	do	30	John Simpson.....	do	3324
do 4...	do ...	do	31	Thomas Currie.....	do	3325
do 4...	do ...	do	32	G. W. Campbell.....	do	3326
do 4...	do ...	do	33	Mrs. D. Mitchell.....	do	3327
July 10...	W. F. Best.....	New Brunswick..	403	Thomas Davidson....	St. John.....	6140
do 10...	do	do ...	404	Andrew Aiton	Sussex	6141
do 10...	do	do ...	405	William Morrison....	St. John.....	6142
do 11...	do	do ...	406	Lawrence Donovan..	Simonds	6143
do 11...	do	do ...	407	James Mullen.....	do	6144
Aug. 3...	do	do ...	408	Jermiah Donovan....	do	6145
do 3...	do	do ...	409	John Drummond	do	6146
do 22...	do	do ...	410	Robert Hastings.....	do	6162
do 22...	do	do ...	411	Andrew Gibson.....	do	6163
do 24...	do	do ...	412	Joseph Stephenson...	do	6164
do 31...	do	do ...	413	Joseph Dalzell.....	do	6165
do 31...	do	do ...	414	George McAfee.....	do	6166
Sept. 1...	do	do ...	415	Daniel Desmond.....	do	6167
do 1...	do	do ...	416	Thomas L. Higgins..	do	6168
do 5...	do	do ...	417	Mrs. Margaret Leck.	Portland.....	6169
do 5...	do	do ...	418	Daniel Peacock.....	do	6170
do 19...	do	do ...	419	Jas. W. Anderson....	St. John	6171
do 19...	do	do ...	420	J. D. McAvity	do	6172
do 19...	do	do ...	421	P. J. McEvoy.....	do	6173
do 20...	do	do ...	422	Mrs. J. E. McCormick	do	6174
do 20...	do	do ...	423	Robert Ritchie.....	do	6175
do 20...	do	do ...	424	John Doody	do	6176
do 22...	do	do ...	425	Miss Mary Collins....	do	6177
Aug. 25...	M. Fiset.....	Quebec	4002	Francis Gilbert.....	Quebec.....	6506
do 25...	do	do	4003	Mad. J. Genest.....	do	6507
do 25...	do	do	4004	Irel Gway.....	do	6508
do 25...	do	do	4005	Jean Pezinas.....	Lévis.....	6509
do 25...	do	do	4006	Joseph Begin.....	do	6510
do 27...	do	do	4016	Elisée Parent.....	St. Sauveur	6511
do 27...	do	do	4017	Euclise Lebel.....	St. Ambroise.....	6512
do 27...	do	do	4018	Jacques Pepin.....	do	6513
do 27...	do	do	4019	Joseph Payeau.....	do	6514
do 27...	do	do	4020	Elzéar Parent.....	St. Sauveur	6515
do 31...	do	do	4021	J. B. Demers.....	Quebec	6516
do 31...	do	do	4022	Chrysostome Carisse	St. Roch.....	6517
do 31...	do	do	4023	Francis Laforme	St. Sauveur.....	6518
do 31...	do	do	4024	Marcel Poire.....	Lévis	6519
Sept. 1...	do	do	4025	John Beamont	Quebec	6520

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DRUGS—Tabulated Statement, &c.—*Continued.*

Result of Analysis.						Observations and Remarks.
Butter Fat	Total Solids.	Water.	Specific Gravity at 60° F.	Solids not Fat.	Ash.	
p. c.	p. c.	p. c.	0	p c.	p. c.	
2·85	11·60	88·40	1033·5	8·75	·85	Adulterated by removal of butter.
2·71	11·87	88·13	1033·7	9·16	0 87	do do
3·90	12·37	87·63	1031·1	8·47	0·79	Not adulterated.
3·31	9 41	90·59	1022·6	6·10	0·60	Adulterated by the addition of a large amount of water.
3·96	11·38	88·62	1027·4	7·42	0·70	do do do
3·78	12·06	87·94	1031·1	8·28	0·76	Not adulterated.
4·23	12·43	87·57	1028·5	8·20	0·71	do
4·09	11·52	88·48	1025·1	7·43	0·66	Adulterated by the addition of water.
4·26	13·42	86·58	1031·8	9·16	0·83	Not adulterated.
2·97	11·55	88·44	1030·9	8·59	0·76	Adulterated by the removal of butter fat.
3·55	11·98	88·02	1029 9	8 43	0·75	Not adulterated.
2·58	11·75	88·25	1032·8	9·17	0·72	Adulterated by the removal of butter fat.
3·59	12·76	87·24	1031·2	8·87	0·71	Not adulterated.
4·73	13·74	86·26	1031·2	9·01	0·71	do
6·10	14·56	85·44	1027·8	8·46	0·73	do very rich in butter fat.
3·66	12·67	87·33	1032·1	9·01	0·67	do
3·57	12·56	87·44	1031·7	8·99	0 70	do
3·45	12·67	87·33	1032·7	9·22	0·72	do but low in butter fat.
3·60	12·10	87·90	1·0318	.....	.....	Genuine butter fat rather low.
4·00	13·10	86·90	1·0332	.....	.....	do fair proportions.
3·55	12·40	87·60	1·0328	.....	.....	do rather low.
3·65	12·75	87·25	1·0335	.....	.....	do do
3·86	12·56	87·44	1·0315	.....	.....	do fair.
4·01	12·56	87·44	1·0333	.....	.....	do average.
3·70	12·09	87·91	1·0316	.....	.....	do fair.
4·15	12·57	87·43	1·0301	.....	.....	do above the average.
3·61	12·02	87·98	1·0319	.....	.....	do rather low.
4·40	12·85	87·15	1·0320	.....	.....	do
3·45	11·60	88·31	1·0322	.....	.....	do rather low.
4·58	12·97	87 03	1·0324	.....	.....	Genuine; butter fat above the average.
3·71	12·61	87·39	1·0323	.....	.....	do do rather low.
4·20	12·85	87·15	1·0336	.....	.....	do do above the average.
3·52	12·16	87 84	1·0327	.....	.....	do do rather low.
4·34	13·04	86·96	1 0320	.....	.....	do do above the average.
3·24	11·86	88·14	1·0321	.....	.....	Not adulterated.
3·70	12·80	87·20	1·0310	.....	.....	do
3·31	12·27	87·73	1·0322	.....	.....	do
3·58	12·85	87·15	1·0311	.....	.....	do
2·54	11·56	88·44	1·0312	.....	.....	do
2·95	12·00	88·00	1·0334	.....	.....	do
2·84	12 30	87·70	1·0321	.....	.....	do
4·700	14·140	85·860	1·031	9·440	0·640	Good.
5·060	11·800	88·200	1·028	6·740	0·750	Pure.
2·960	9·960	90·040	1·026	7·000	0·420	Adulterated by the removal of butter fat.
5·800	14·600	85·400	1·031	8·800	0·760	Good.
4·900	13·900	86·100	1·032	9·000	0·720	do
3·600	13 200	86 800	1·032	9·600	·450	do
2·800	12 200	87·800	1·0325	9·500	0·390	Fair.
3·200	12·400	87·600	1·0312	9·100	0·360	Good.
4·600	13·800	86·200	1·0305	9·200	0·400	do
3·100	12·600	87·400	1·032	9·500	0·450	do
3·500	13 200	86·800	1·0325	9·700	0·700	True.
2·540	12·140	87·860	1·0325	9·600	0·700	Adulterated; of an inferior quality.
2·210	11·000	89·000	1·0315	8·800	0·690	Coupé.
1·640	11·440	88 560	1·034	9·800	0·715	Skimmed; adulterated.
4·000	13·600	86·400	1·0315	9·600	0·670	Very good.

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APPENDIX C—INSPECTION OF FOOD AND

MILK—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1887.						
Sept. 2...	M. Fiset	Quebec	4026	Frs. Faucker	Quebec	6521
do 2...	do	do	4027	O. Dorval	St. Olivier	6522
do 2...	do	do	4028	Onésime Dorval	do	6523
Aug. 12...	John Baker Edwards	Montreal	1201	John Flanaghan	Montreal	4980
do 16...	do	do	1202	John Haggarty	do	4983
do 16...	do	do	1203	Moses Trepanier	do	4984
do 18...	do	do	1204	F. X Bourclon	do	4987
do 18...	do	do	1205	Thomas O'Brien	do	4988
do 20...	do	do	1206	Evans Bros. & Trenholme	do	4989
do 22...	do	do	1208	A. & G. Evans	do	4990
do 22...	do	do	1209	Andrew Walker	do	4991
do 25...	do	do	1210	Craig & Boa	do	4992
do 23...	do	do	1211	Henry Lambert	do	4993
do 25...	do	do	1212	John Quinn	do	4996
do 25...	do	do	1213	F. X. Smith	do	4997
do 25...	do	do	1214	A. & G. Evans	do	4998
do 25...	do	do	1215	Edward Roy	do	4999
Sept. 16...	do	do	1228	Guy Brothers	do	7209
do 16...	do	do	1229	do	do	7208
do 18...	do	do	1230	do	do	7210
do 18...	do	do	1231	do	do	7211
do 20...	do	do	1232	Dr. Robert Craig	do	7212
do 20...	do	do	1233	J. Dawes & Co	do	7213
do 20...	do	do	1234	Manus Haggarty	do	7214
do 22...	do	do	1235	W. G. Smith	do	7215
do 22...	do	do	1236	Joseph Cousineau	do	7216
do 22...	do	do	1237	Robert Morin	do	7217
do 23...	do	do	1238	John F. Armstrong	Sherbrooke	3236
do 23...	do	do	1239	H. Armitage & Son	do	3237
do 26...	do	do	1240	Jas. G. Mallory	do	3238
do 26...	do	do	1241	Allan Lothrop	do	3293
do 28...	do	do	1244	P. A. Trenholme	Montreal	7218
do 28...	do	do	1245	Joseph Cousineau	do	7219
do 29...	do	do	1246	Calixte Boudreau	Sherbrooke	3240
do 29...	do	do	1247	Edmund Green	do	3241
Aug. 30...	F. X. Valade	Ottawa	1804	H. & G. Rees	Kingston	2924
do 30...	do	do	1805	E. R. Rees	do	2925
do 30...	do	do	1806	Henry Wilder	do	2926
do 30...	do	do	1807	J. P. H. Ferris	do	2927
do 30...	do	do	1808	Wm. Pickering	do	2928
do 30...	do	do	1809	George Wilder	do	2929
Sept. 30...	do	do	1822	J. Moorman	Belleville	2422
do 30...	do	do	1823	J.H. Matthews & Son	do	2423
do 30...	do	do	1824	H. L. McCaughey	do	2424
do 30...	do	do	1825	John Smith	do	2425
do 30...	do	do	1826	Mrs. Jas. Porter	do	2426
do 30...	do	do	1827	F. Klimbeil	do	2427
Oct. 3...	do	do	1828	Robt. Honeywell	Ottawa	6837
do 3...	do	do	1829	Mrs. Casey	do	6838
do 3...	do	do	1830	A. H. Adams	do	6839
do 3...	do	do	1831	H. J. Bailey	do	6840
do 5...	do	do	1833	Benjamin Rothwell	do	6841
do 5...	do	do	1834	Jas. Caldwell	do	6842
Aug. 29...	W. Hodgson Ellis	Toronto	2201	Wm. Stothard	Peterboro'	3124
do 29...	do	do	2202	Thos. Stothard	do	3125

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DRUGS—Tabulated Statement, &c.—*Continued.*

Continued.

Results of Analysis.						Observations and Remarks.
Butter Fat.	Total Solids.	Water.	Specific Gravity at 60° F.	Solids not fat.	Ash.	
p. c.	p. c.	p. c.	o	p. c.	p. c.	
3·300	13·000	87·000	1·032	9·700	0·700	Pure.
3·400	13·400	86·600	1·032	10 000	0 700	do
3·200	12·800	87·200	1·032	9·600	0·680	Pure.
3·36	12·42	87·58	1035·	9·06	.....	Genuine.
5·48	14·48	85·52	1029·	9·00	.....	do and rich milk.
5·48	14·48	85·52	1030·	9·00	.....	do do
3·14	12·44	87·56	1031·2	9·30	.....	do milk, below average quality.
3·94	13·04	86·96	1029·0	9·10	.....	do do of fair quality.
5·50	14·57	85·43	1029·3	9·07	.....	do and good milk.
7·59	16·13	83·87	1025·2	8·54	.....	Over average milk, and probably sold as cream.
4·00	13·54	86·46	1030·6	9·54	.....	Genuine milk.
3·10	12 64	87·36	1031·0	9·54	.....	do
3·73	13·13	86·87	1029·4	9 40	.....	do
3·96	13·16	86·84	1032·5	9·20	.....	do
3·34	12·50	87·50	1032·5	9·16	.....	Not adulterated.
4·09	12·96	87·04	1027·3	8·87	.....	Genuine.
3·56	10·80	89·20	1026·	7·24	.....	Watered to the extent of 10 to 15 per cent.
3·26	10·76	89·24	1025·	7·50	·62	Adulterated by the addition of at least 10 per cent. of water.
3·36	10·23	89·77	1023·4	6·87	·62	do do do 10 to 15 per cent. of water.
2·96	10·50	89·50	1027·	7·54	·63	do do do 10 per cent. of water.
4·84	12·73	87·27	1026 4	7·89	·17	Genuine.
8·51	17·10	82·90	1026 9	8 89	·560	do over average; partially creamed.
17·30	26·04	73·96	1020·	8·44	·55	do cream.
3·79	13·33	86·67	.030·	9·54	·17	do and above average milk.
4·48	13·48	86·52	1029·	9 0)	.....	do do
8·56	17·00	83·00	10.6·	8·44	·51	Above average, and partially creamed.
7·10	16·76	83·24	1030·	9 66	·7	do do
5·24	14·60	85·40	1032·5	9·36	.....	Genuine milk, and over average.
4·25	13·57	86·43	1033·	9·32	·75	do
7·20	16·50	83·50	1029·5	9·30	·68	do and above average; partially creamed.
4·22	14·14	85·86	1033·	9·93	·7	do
3·20	13·10	86·90	1034·2	9·90	·75	Genuine.
4·24	14·14	85·86	1032·	9·90	·76	do
4·59	14·01	85·99	1031·8	9·42	·76	do
3·94	13 98	86·02	1032·9	10·04	·8	do
3·02	12·13	87·87	1031·5	9·11	.....	Good.
3·58	11·87	88·13	1028·8	8·29	.....	do
3·89	13·76	86·24	1031·1	9·87	.....	do
3·83	12·90	87·10	1028·4	9·07	.....	do
4·38	13·56	86·44	1030·3	9·18	.....	Rich.
3·90	13·24	86·76	1031·5	9·34	.....	Good.
3·76	13·19	86·81	1031·3	9·43	.....	do
3·93	13·51	86·49	1031·7	9·58	.....	do
4·31	13·82	86·18	1031·2	9·51	.....	Rich.
4·50	13·36	86 64	1027·7	8·86	.....	do
4·02	13·65	86·35	1031·8	9·63	.....	Good.
4·18	13·59	86·41	1030·9	9·41	.....	do
4·86	14·26	85·74	1030·5	9·40	.....	Rich.
3·46	12·39	87·61	1029·3	8·93	.....	Good.
4·76	14·05	85·95	1032·04	9·25	.....	Rich.
4·76	14·18	85 82	1029 9	9 42	.....	Good.
4·20	13·55	86·45	1030·7	9·35	.....	do
3·57	13·10	86·90	1031·8	9·53	.....	do
4·61	13·19	86·91	1030·6	8·58	.....	Genuine.
4·62	13·54	86·46	1032·3	8 92	.....	do

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APPENDIX C—INSPECTION OF FOOD AND

MILK—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1887.						
Aug. 29...	W. Hodgson Ellis....	Toronto	2203	Thomas Hooper	Peterboro'	3126
do 29...	do ...	do	2204	William Bell	do	3127
do 29...	do ...	do	2205	C. J. Hearney	do	3128
do 29..	do ...	do	2206	Wm. Yelland.....	do	3129
do 29...	do ...	do	2207	James Wilson	Port Hope.....	2834
do 29...	do ...	do	2208	Thomas Kerr.....	do	2835
do 29...	do ...	do	2209	Alexander Morrow..	do	2836
Sept. 1...	do ...	do	2210	Daniel Wrightson....	do	2837
do 1...	do ...	do	2211	George Hill	do	2838
do 1...	do ...	do	2212	A. Meadows & G. R. Race	do	2839
do 14...	do ...	do	2213	Toronto Dairy Co....	Toronto	7016
do 7...	do ...	do	2214	I. Endeau	do	7017
do 7...	do ...	do	2216	Clark Bros	do	7019
do 7...	do ...	do	2217	T. Gibb	do	7020
do 7...	do ...	do	2218	E. Shannon.....	do	7018
1888.						
June 21...	do ...	do	2522	Jas. C. Miller.....	do	3
do 21...	do ...	do	2523	John Roy.....	do	5
do 21...	do ...	do	2524	Thomas Bowden.....	do	7
do 21...	do ...	do	2525	Jas. Chapman	do	9
do 21...	do ...	do	2526	E. Shannon.....	do	10
do 21...	do ...	do	2527	Wm. O'Hearn.....	do	11
do 27...	do ...	do	2528	J. D. Burns.....	do	14
do 27...	do ...	do	2529	John Elliott	do	15
do 27...	do ...	do	2530	Patrick Sheehan	do	16
do 27...	do ...	do	2531	Wm. Compton	do	21
do 28...	do ...	do	2533	R. J. Cosborne	do	23
do 28...	do ...	do	2534	E. Shannon	do	24
do 28...	do ...	do	2535	N. Baldwin.....	do	26
do 28...	do ...	do	2536	Jas. Chapman.....	do	29
do 28...	do ...	do	2543	Alf. G. Haine.....	do	22
do 28...	do ...	do	2547	Alex. Haine	do	30
do 28...	do ...	do	2548	Wm. Fraser	do	31
do 28...	do ...	do	2549	Wm. Cirber	do	32
do 28...	do ...	do	2550	John Good.....	do	33
do 28...	do ...	do	2551	Robt. Caddle.....	do	42
do 28...	do ...	do	2552	E. Shannon.....	do	45
do 28...	do ...	do	2561	A. Raynor.....	do	54

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DRUGS—Tabulated Statement, &c.—*Continued.*

Concluded.

Results of Analysis.						Observations and Remarks.
Butter Fat	Total Solids.	Water.	Specific Gravity.	Solids not Fat.	Ash.	
p c	p. c.	p. c.	p. c.	p. c.	p. c.	
4·37	13·30	86·70	1031·9	8·93	.....	Genuine
·89	9·86	90·14	1034·4	8 97	.....	Adulterated by the abstraction of cream.
3·93	12·75	87 25	1030 5	8·82	.....	Genuine.
3 20	11·73	88·21	1031·	8·53	.....	do
3·57	12·38	87·62	1031·7	8·81	.....	do
3·12	12·32	87·68	1033 8	9·20	.....	Genuine.
3·66	13·14	86·86	1033·8	9·51	.....	do
7·19	15·71	84·29	1028·0	8 52	.....	do
3·08	11·90	88·10	1030·7	8·82	.....	do
4 06	13·24	86·76	1031·1	9·18	.....	do
3 00	12·10	87·90	1031 7	9·10	.....	do
3·00	12 20	87·80	1032·4	9·20	.....	do
3·48	11·45	88·55	1029·7	7 97	.....	Adulterated by admixture with water.
3·20	12·10	.....	1032·3	8 90	.....	Genuine.
3·40	12 00	.....	1031 0	8·60	.....	do
2·70	11·30	.....	1031·2	8·60	.....	Either a poor milk or some of the cream has been removed.
2·70	10·10	.....	1027 6	7 40	.....	Adulterated by admixture of water.
3·50	11·20	.....	1028·3	7 70	.....	do do
3·00	11·50	.....	1031·0	8 50	.....	Genuine.
3·30	11·50	.....	1031·0	8·20	.....	do but the solids, not fat, are low.
2·90	11·10	.....	1032·5	8·20	.....	Adulterated by the addition of water.
3·30	11·70	.....	1031·4	8·40	.....	Genuine, low solids not fat.
3·80	10·70	.....	1026·0	6·90	.....	Adulterated by the admixture of water.
2·80	11·30	.....	1031·4	8·50	.....	Deficient in fat.
2·70	9·70	.....	1025 6	7·00	.....	Adulterated by admixture with water.
2·70	10·60	.....	1029·0	7 90	.....	do do
2·30	10·70	.....	1031·8	8 40	.....	Adulterated by removal of some of the cream or by admixture with water.
2·05	10·58	.....	1031·8	8·50	.....	Adulterated by removal of a portion of the cream.
2·60	11·10	.....	1031·0	8·50	.....	Either skimmed or a poor milk.
3·10	12·30	.....	1033 9	9·. 0	.....	Genuine.
2·80	11·60	.....	1032·5	8·80	.....	Low in fat.
2·60	11·10	.....	1031·0	8·50	.....	Either skimmed or a poor milk.
2·90	10·90	.....	1029·3	8·0	.....	Adulterated by admixture with water.
3·20	11·00	.....	1028·5	7·80	.....	do do
3·30	11·50	.....	1049·5	8·20	.....	Either of poor quality or watered.

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APPENDIX C.—INSPECTION OF FOOD AND

CREAM OF

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1897.						
Oct. 4...	M. Bowman	Nova Scotia...	34	M. Flinn	Halifax	5373
do 4...	do	do	35	W. Forsythe	do	5374
do 4...	do	do	36	Dillon Bros.	do	5375
do 4...	do	do	37	John Munro	do	3315
do 4...	do	do	38	G. J. Hamilton & Son	do	3319
Aug. 13...	W. F. Best	N. Brunswick..	1788	Irwin & King	St. John	6147
do 13...	do	do	1790	Sharp & Dunfield	do	6149
do 13...	do	do	1792	Ed. Hunt	do	6151
do 13...	do	do	1794	Dudne Breeze	do	6152
do 13...	do	do	1796	Wm. A. Porter	do	6153
Sept. 22...	M. Fiset	Quebec.	4029	A. A. Cantin	Quebec.	6524
do 22...	do	do	4030	J. B. Dion	do	6525
do 22...	do	do	4031	F. X. Gagnon	do	6526
do 22...	do	do	4032	Edmond Côte	do	6527
do 22...	do	do	4033	L. Gaboury	do	6528
Aug. 25...	J. B. Edwards	Montreal.	1217	Loughman & O'Flaherty	Montreal	4985
do 26...	do	do	1218	A. Derbruit	do	4986
Sept. 26...	do	do	1242	O. O Peterson	Sherbrooke	3230
do 26...	do	do	1243	J & A. McKintosh	do	3232
Aug. 25...	do	do	1216	Williams Bros.	Montreal	4982
Sept. 30...	F. X. Valade	Kingston.	1803	C Stratton	Ottawa	6846
do 30...	do	do	1813	Hooly & Son	Belleville	2419
do 25...	do	do	1817	J. A Paterson	Prescott	2523
do 25...	do	do	1819	A Robertson	Kingston	3003
do 30...	do	do	1832	H. H Curtis	do	2931
Oct. 29...	W. H. Ellis.	Toronto	355	T. R Harvey & Son.	Cobourg	2829
do 29...	do	do	356	C. Clenus & Son	Port Hope	2833
do 29...	do	do	357	John Garvey	Peterboro'	3123
do 29...	do	do	358	R W. Boyd	Toronto	7008
do 29...	do	do	359	W. H. Rumsey	do	7009
do 29...	do	do	392	W S Robinson	do	76
do 29...	do	do	393	J. C Saunder.	do	77
do 29...	do	do	394	E. H. Bauld	do	78

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DRUGS—Tabulated Statement, &c.—*Continued.*

TARTAR.

Results of Analysis.					Observations and Remarks.
Moisture.	Ash.	Calcium Tartrate.	Potassium Bitrate.	Sulphuric Acid.	
p. c.	p. c.	p. c.	p. c.	p. c.	
4·63	....	10·10	85·37	....	Not adulterated.
4·57	....	10·09	85 34	....	do
4·27	2·24	13·81	79 68	....	Adulterated, containing tartrate and sand.
4·42	....	9·43	86·15	....	Not adulterated.
3·60	1·33	9·27	85·80	....	do
2·15	0·80	7·00	88·60	Traces.	do
3·30	0·95	9·00	72·10	....	do
3·20	1·25	9·75	71·40	Traces.	do
5·60	3·20	8·10	65·00	4·50	Adulterated with sulphate of lime.
1 00	1 10	7·40	7 800	4·80	Adulterated with a small amount of sulphate of lime.
....	38·700	60 to 70	26 076	....	Adulterated. No starch.
....	40·770	70 to 75	....	....	do do
....	33·100	....	....	....	do Starch.
....	5·900	....	... .	....	do Flour.
....	64·400	60 to 70	....	....	do No starch.
2·00	....	6·00	92·00	....	Genuine.
1·00	....	3 00	70·00	... .	Adulterated by the addition of 25 p. c. of starch or farina.
2·00	....	·12	·86	....	Not adulterated. Below standard.
4·00	....	4·00	73·60	18·40	Adulterated by the addition of 20 p. c. mixture of phosphate of lime.
1·00	... .	6·00	93·00	... .	Not starch Fair sample.
1·70	38·11	8·00	....	....	Genuine, according to U. S. P.
0·29	37·83	8·00	....	....	Adulterated with about 2·47 p. c. of quartz or selicious matter. Injurious to health.
0·35	37·06	8·00	.. ..	....	Genuine, according to U. S. P.
0·30	37 43	6·00	....	....	Very good.
0 82	36·51	8·00	....	....	Good. Traces of phosphoric acid.
....	38 60	....	....	....	Adulterated with sulphate of lime. Adulteration injurious to health.
....	....	....	... .	... .	Genuine.
....	30·00	....	....	....	Adulterated by a mixture with sulphate of lime.
....	....	....	....	....	Genuine.
....	....	....	....	....	do
....	....	....	....	....	Contains 88·10 p. c. of acid, tartrate of potassium. Genuine.
....	....	....	....	....	do 92·05 do do do
....	....	....	....	....	do 92·05 do do do

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APPENDIX C—INSPECTION OF FOOD AND

COF

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.	Results.	
							Fatty Matter.	Cafferine.
1887.							p. c.	p. c.
Sept. 17	M. Bowman	Nova Scotia	1	Miss Quinn	Halifax	5363	4·05	0·75
do 17	do	do	2	R. H. Campbell	do	5364	2 74	0·40
do 17	do	do	3	C. Graham & Co	do	5365	5 40	0·95
do 17	do	do	4	A. McDougall & Son	do	5366	11·32	1 30
do 17	do	do	5	D. F. Power & Co	do	5367	10·52	1 33
do 17	do	do	6	Danl. Johnstone	do	5368	6·16	0·70
do 17	do	do	7	M. Murphy	do	5369	7·61	1·13
do 17	do	do	8	Thos. O'Malley	do	5370	11·11	1·27
do 17	do	do	9	Taylor & Christe	do	5371	13·06	1·18
do 17	do	do	10	Jas. Sutherland	do	5372	1·50	Nil.
do 17	do	do	11	John Munro	do	3316	11·50	1·20
do 17	do	do	12	W. S. Harris	do	3317	5·82	0·70
do 17	do	do	13	do	do	3318	14·16	1·25
do 17	do	do	14	David Logan	do	3320	9·10	0·55
do 17	do	do	15	Dalzel Paterson	do	3321	8·40	0·62
Aug. 13	W. F. Best	N. Brunswick	1789	Irwin & King	St. John	6148	9·25	1·15
do 13	do	do	1791	John P. Maloney	do	6150	9·20	1·75
do 13	do	do	1793	E. V. Hunt	do	6152	7·95	1·15
do 13	do	do	1795	Dudne Breeze	do	6154	9 75	1·15
do 16	do	do	1797	Geo. Spiller	do	6156	10·20	1·10
do 16	do	do	1798	Robt. Miller	do	6157	6·50	0·75
do 16	do	do	1799	Peter Chisholm	do	6158	9·20	1·00
do 16	do	do	1800	P. J. McPherson	do	6159	6 85	0·80
do 16	do	do	401	J. D. McAvity	do	6160	9·00	1·25
do 16	do	do	402	Williams Bros.	do	6161	9·25	0·90
Aug. 22	M. Fiset	Quebec	4007	F. X. Fortier	Quebec	6501	4·300	0·240
do 22	do	do	4008	J. B. Rousseau	do	6502	7·600	0·200
do 22	do	do	4009	J. E. Amelin	do	6503	2 400	0·140
do 22	do	do	4010	James Labeé	do	6504	7·600	0 960
do 22	do	do	4001	J. C. Venner	do	6505	7·540	0·954
do 14	do	do	4011	Labiel & Gagne	do	5196	6·100	1·400
do 14	do	do	4012	Touseunt & Co	do	5197	7·100	1·000
do 14	do	do	4013	Berube & Chouinard	do	5198	3·900	0·400
do 14	do	do	4014	Louis Poulin	do	5199	7·000	0·600
do 14	do	do	4015	Paquet & Potvin	do	5200	7 800	0·600
Sept. 1	J. B. Edwards	Montreal	1219	Duneau Bros	Montreal	4981	·5	traces.
do 1	do	do	1220	Joseph Sanche	do	4994	4 5	do
do 2	do	do	1221	Philias Desormiers	do	4992	5·6	do
do 3	do	do	1222	John L. Provan	do	7201	4·3	0 5

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DRUGS—Tabulated Statement, &c.—*Continued.*

FREE.

OF ANALYSIS.					
Sugar.	Ash. Soluble.	Ash. Insoluble.	Specific Gravity.	Microscopical Examinations.	Observations and Remarks.
p. c.	p. c	p. c.	p. c.		
.....	2·53	1·22	1 0104	Roasted grain and chicory.....	Adulterated.
.....	2·38	0·82	1·0121	Chicory.....	do
.....	3·20	1 20	1·0116	do	do
.....	3·78	0 44	1·0087	Coffee only..	Not adulterated.
.....	3·88	0·99	1·0097	....	do
.....	2·50	2·05	1·0105	Large amount of roasted grain and chicory.	Adulterated.
.....	3·21	2·40	1·0119	Chicory	do
.....	3·56	0·86	1·0105	do	do
.....	3 63	0·74	1·0086	....	Not adulterated.
.....	2·12	1 54	1·0160	Contains a large amount of roasted grain.....	Adulterated; sold as dandelion coffee.
.....	3·83	0·59	1·0081	....	Not adulterated.
.....	2·77	1·40	1·0102	As stated on label, mixed; contains roasted grain and chicory.....	
.....	3·48	0·74	1·0076	....	Not adulterated.
.....	3 40	1 15	1 0081	Large amount of chicory and a small amount of roasted grain.....	Adulterated.
.....	2 99	1 31	1·0103	Roasted grain and chicory	Adulterated.
1·75	2·50	1·50	1 007	Coffee..	Genuine.
1·75	2·80	1·45	1·008	do	do
1·70	2 85	1·00	1·007	.....	Not adulterated.
1·75	2·40	1 60	1·007	.....	do
2·25	2·30	2 00	1·008	.....	do
3·80	3·40	2·60	1·007	Coffee..	Genuine.
2·25	1·80	1 95	1·008	.....	do
1·40	2·50	1·75	1·008	.....	do
1·40	2·75	1 60	1·108	.....	do
1·75	2·10	1 80	1·008	.....	do
.....	3·540	1·300	1·009	Nothing but coffee...	Pure.
.....	3 360	1·600	1·011	Coffee.....	do
.....	2·000	0·500	1·011	Burnt starch.....	Adulterated.
.....	3·400	0·600	1·010	Only coffee.	Pure.
.....	3·500	0·500	1.008	Coffee	do
.....	1·800	0·600	1·008	do	do
.....	2·400	1·600	1·009	do	do
.....	2·300	1·140	1·009	do only.....	do
.....	2·400	1·200	1·008	do do	do
.....	2·400	1·100	1·008	do	do
2·42	.....	.....	1·0126	Contains chicory; corn to the extent of 30 p c.....	Adulterated.
2·42	.....	.....	1·0126	Contains chicory; roasted grain over 20 p. c	do
2·31	.....	.....	1·0128	Chicory; starch over 20 p. c	do
2·8	.....	.....	1·0142	Chicory; grain 10 p. c	do

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APPENDIX C—INSPECTION OF FOOD AND

COFFEE—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.	Results	
							Fatty Matter.	Caffeine.
1887.							p. c.	p. c.
Sept. 3	J. B. Edwards...	Montreal.....	1223	John L. Provan	Sherbrooke	7202	2·0	2·10
do 3	do ...	do	1224	Geo. Neilch.....	do	7203	3·6	0·52
do 3	do ...	do	1225	Daoust & Brothers....	do	7204	3·9	0·25
do 3	do ...	do	1226	F. X. Gareau.....	do	7205	4·2	0·66
do 3	do ...	do	1227	F. X. Gareau	do	7206	3·9	traces
do 30	do ...	do	1253	L. Proulx.....	do	3235	·2	1·3
do 30	do ...	do	1251	J. P. Beauvois.....	do	7207	·7	1·7
do 30	do ...	do	1248	O. O. Peterson	do	3229	8·2	2·0
do 30	do ...	do	1249	J. & A. McIntosh.....	do	3231	9·0	1·75
do 30	do ...	do	1250	R. L. Parker.....	do	3233	86	1·8
do 30	do	do	1252	T. Gendrau.....	do ...	3234	.....	1·5
Aug. 30	F. X. Valade.....	Kingston.....	1801	Wm. Wall.....	Ottawa.	6834	6 94	0 6
do 30	do	do	1802	McLeod & Co..	do	6835	9·24	0·7
Sept. 30	do	do	1810	Geo Wilder.....	Kingston.....	2930	6 51	traces
do 30	do	do	1812	Thos. Farrell	do	2932	6 60	0·40
do 25	do	do	1816	J. A Patterson	Prescott.....	2522	7·16	0·5
do 25	do	do	1818	C. Whitney	do	2524	10·13	0 55
do 30	do	do	1814	John Gilbert	Belleville	2420	7·14	0·67
do 30	do	do	1815	John Gilbert	do	2421	11 49	0·68
do 25	do	do	1820	Elliott & Davin.....	Perth	3009	9·16	0 69
do 25	do	do	1821	Geo. Devlin	do	3010	9·35	0·31
							Moisture.	Ash.
do 14	W. H. Ellis.	Toronto	2222	Thos. Battelle.....	Cobourg.....	2826	4·65	4 50
do 14	do	do	2223	Hooey & Son.....	do	2827	4·20	4·10
do 14	do	do	2224	Wm. Burnet	do	2828	4·05	4·95
do 14	do	do	2225	D. J. McLennan.....	Port Hope.....	2830	4 00	4·40
do 14	do	do	2226	J. Mitchell.....	do	2831	4·25	4·45
do 14	do	do	2227	Simpson & Reid..	do	2832	4 30	4·55
do 14	do	do	2231	J. A. Wiseman	Toronto	7010	4 35	4·95
do 14	do	do	2232	J. R Hoare.....	do	7011	4·55	4·65
do 14	do	do	2233	M. Barker	do	7012	3 6	4·9
do 14	do	do	2234	R. W. Loudon.....	do	7013	4·30	4·35
do 14	do	do	2235	F. Dean.....	do	7014	4 60	4·60
do 14	do	do	2236	Mrs. Jas. Davie.....	do	7015	4·85	4·45
do 14	do	do	2230	Elliott Burney.....	Peterboro'.....	3122	3·95	4·60
do 14	do	do	2229	Rush Bros	do	3121	4·15	4·45
do 14	do	do	2228	John Cameron.....	do	3120	5·15	4·35
							Fatty Matt'r	Caffeine.
Nov. 15	J. E. Wright, jun.	Manitoba.	2801	E. B. Rutledge.....	Winnipeg.	5726	11·96	·87

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DRUGS—Tabulated Statement, &c.—*Continued.*

Continued.

OF ANALYSIS.

Sugar.	Ash. Soluble.	Ash. Insoluble.	Specific Gravity.	Microscopical Examination.	Observations and Remarks.
p. c.	p. c.	p. c.	p. c.		
0·24	.....	.....	1·0085	No foreign ingredients	Genuine.
1·96	.....	.....	1 0130	Contains chicory and roasted grain	Adulterated.
2·05	.....	.....	1·0130	Contains over 25 p.c. chicory and roasted corn	do
2·02	.....	.....	1·0130	Contains over 20 p.c. chicory and roasted grain	do
2·13	.....	.....	1.0128	Contains over 20 p.c. chicory and roasted corn	do
0·10	6·4	.....	1 009	No foreign vegetable.	Genuine.
0·15	·5	.....	1·009	do ...	do
0·1	·4	.....	1·009	do ...	do
0·10	2·3	.....	1·009	do ...	do
0·1	·5	....	.....	do ...	do
0·15	5·00	.....	1·0085	do	do
1·90	2·59	1 79	1008·2	Coffee a little chicory	A fair sample.
0·30	2·86	1·76	1007·8	Coffee.....	Pure.
11·64	2·52	1·76	1016·25	Coffee and chicory...	Adulterated by about 30 per cent, chicory and burnt sugar.
2·62	3·01	1·80	1012·5	Coffee, chicory and beans	Adulterated.
traces	3·15	1·19	1008·9	Coffee.....	Good.
0·45	3·10	0·36	1007·4	do	do
2·12	3·54	1·39	1008·15	do little chicory.	do
1·69	3·12	1·46	1008·30	do	Very good.
0·26	3·72	1·36	1008·15	do	do
4·20	2·89	2·56	1009 9	do and chicory....	Fair.
Insoluble.	**Soluble.**	**Caffeine.**	**Specific Gravity.**		
1·10	3·40	·83	1009·6	Pure	Genuine.
1·05	3 05	1·07	1008·4	do	do
1·75	3·20	·96	1008·6	do	do
1·55	2·85	1·14	1008·3	do	do
·95	3·60	1·05	1009·0	do	do
·95	3·60	1.02	1009·	do	do
1·85	3·10	1·01	1012·4	Chicory not less than 20 per cent.....	Adulterated.
1·25	3·30	1·21	1010·4	Chicory about 10 p c.	do
1·3	3·6	1 21	1009·7	Genuine.....	Genuine.
·85	3·50	1·29	1009·	Pure.....	do
1·05	3·55	1·29	1009·3	do	do
1·00	3·45	·92	1010·4	Starch, probably peas	Adulterated.
1·10	3·50	1·10	1008·6	Pure.....	Genuine.
1·25	3 20	·98	1009·0	do	do
1·10	3·25	·87	1008·6	do	do
Sugar	**Soluble.**	**Insoluble.**	**Specific Gravity**		
2·57	2·34	3·82	1 007	....	Not genuine.

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APPENDIX C—INSPECTION OF FOOD AND

COFFEE—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.	Results	
							Fatty Matter.	O
1887.							p. c.	p. c.
Nov. 15	J. E. Wright, jun	Manitoba.....	2802	E. B. Rutledge...	Winnipeg	5727	7·18	1·13
do 15	do ...	do	2803	Canada Pacific Co....	do	5730	8·36	1·21
do 15	do ...	do	2804	J. Muller.....	do	5731	4·05	·76
do 15	do ...	do	2805	H. Hodges & Sons....	do	5733	6·30	1·07
do 15	do ...	do	2806	A. Anderson.....	do	5735	10·25	1·09
do 15	do ...	do	2807	Roberts Bros.....	do	5737	8·45	·72
do 15	do ...	do	2808	J. G. Mills	do	5738	9·30	·86
do 15	do ...	do	2809	Geo. Adam.....	do	5739	9·50	1·09
do 15	do ...	do	2810	B. Moffat.....	do	5740	7·30	1·02

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DRUGS—Tabulated Statement, &c.—*Continued.*

Concluded.

·OF ANALYSIS.					
Sugar.	Ash. Soluble.	Ash. Insoluble.	Specific Gravity.	Microscopical Examination.	Observations and Remarks.
p. c.	p. c.	p. c.	p. c.		
2·60	3·12	·84	1009·70	....	Not pure coffee.
1·38	3·42	·78	1005·	Contains a little quantity of peas....	Not genuine.
3·82	2·78	·94	1012·	....	do
·73	3·18	·78	1008·70	Coffee only.....	Genuine.
·93	3·19	·61	1007·	Contains a small quantity of peas ...	Not genuine.
1·12	3·00	·88	1006·52	Coffee only	Genuine.
3·02	3·16	·70	1010·	Contains chicory to about 15 to 20 p.c.	Not genuine.
1·82	3·16	1·04	1006·50	Coffee only.....	Genuine.
1·00	2·84	·68	1008·	do	do

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Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.
1908.					
May 7...	F. X. Valade.....	Kingston.....	1905	W. S. Detlor.....	Napanee.....
do	do	do	1906	A. W. Grange & Bro.....	do .....
do 7...	do	do	1907	W. S. Detlor.....	do .....
do 7...	do	do	1908	Perry & Co.....	do .....
do 7...	do	do	1909	A. W. Grange & Bro.....	do .....
do 7...	do	do	1910	T. A. Huffman.....	do .....
do 7...	do	do	1911	G. Birks.....	Prescott.....
do 7...	do	do	1912	do	do .....
do 7...	do	do	1913	A. O. Harding.....	do .....
do 7...	do	do	1914	T. R. Melville.....	do .....
do 7...	do	do	1915	do	do .....
7...	do	do	1916	Shillington & Co.....	Ottawa.....
do 7...	do	do	1917	W. A. Lloyd	do .....
do 7...	do	do	1918	J. W. McEachren.....	do .....
do 7...	do	do	1919	H. J. Fraser.....	do .....
do 7...	do	do	1920	J. W. McEachren.....	do .....
do 7...	do	do	1921	H. J. Fraser.....	do .....
do 7...	do	do	1922	Shillington & Co.....	do .....
do 7...	do	do	1923	W. A. Lloyd.....	do .....
do 7...	do	do	1924	Valade & Co.....	do .....
do 7...	do	do	1925	C. O. Dacier.....	do .....
do 7...	do	do	1926	J. Skinner & Co.....	do .....
do 7...	do	do	1927	H. F. McCarthy.....	do .....

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DRUGS—Tabulated Statement, &c.—*Continued.*

No. of Sample.	Results of Analysis. Specific Gravity.	Alcoholby weight.	Observations and Remarks.
	p. c.	p. c.	
7113	·821	90·64	Sp. vini rect. Genuine according to U.S.P.
7114	·819	91·36	do do do
7115	·938	.....	Sp. aether nitr. Total acidity, 0·68 p.c. ; a trace of nitrite of ethyl ; contains about 44 p c. by measure of water added ; answers none of the tests of the pharmacopœia ; is adulterated, and thereby useless as such a drug.
7116	·896	.....	do Total acidity, 0 64 p.c. ; contains at least 4 p.c. of nitrous acid and nitrite of ethyl ; contains about 22 p.c. of water by measure too much ; fair.
7117	1·002	.....	Vinum quiniæ. Contains about 0·17 grs. of quinine per fluid ounce ; almost limpid and very slight deposit acid reaction ; too weak in quinine, should contain about one grain per fluid ounce.
7118	.....	.....	Acid tart. potass. Answers all the tests of U.S.P. ; contains no more than 10 p.c. tartrate of calcium ; good.
7119	0·818	92·71	Sp. vini rect. Genuine according to U. S. P.
7120	·949	38·22	Tinct. opii. Alcohol should be proof spirit 10 degrees to low ; opium extract, 3·11, contains 13·6 grains of opium extract by fluid ounce, corresponding to about 22 grains of opium per ounce The B. P preparation should reach the extract of 33 grains of powder opium. The effect of a such drug cannot be relied upon
7121	·819	91·36	Sp. vini rectifi. Good ; stands all the U. S. P. tests.
7122	·844	.....	Sp. aether. nitr. Total acidity, 0·44 p.c., at least 4 p.c. of nitrite of ethyl and nitrous acid ; very good.
7123	.....	.....	Ferri et quiniæ citr. Ferric oxide, 21·1 p. c. ; quinine dried at 100° C., 3·90 p.c ; cinchonine, quinidine, &c., 1 60 p.c ; contains ammonia ; deficient in quinine.
7124	.....	.....	Ferri et quiniæ citr. Ferric oxide, 19·3 p.c. ; quinine dried at 100° C., 16·03 p.c. ; traces of other alkaloids ; contains ammonia ; good, B.P.
7125	.....	.....	do Ferric oxide, 18 p.c. ; quinine dried at 100° C. 16·4 p.c. ; contains ammonia and traces of other alkaloids ; good, B.P.
7126	.....	.....	Ferri ammoni cit. Ferric oxide (ignition) 38·6 ; answers all the tests of B.P., except residue after ignition which is too high.
7127	.....	.....	do Residue after ignition 34·37 p.c. ; contains either free ferric oxide or free citrate of iron, and should not ; it does not answer all the tests of the B.P.
7128	.....	.....	Acid pot. tart. Answers all the pharmacopœia ; good.
7129	.....	.....	do do do
7130	·954	38·2	Tinc. opii. Extract of opium, 3·83 p.c ; contains 16 8 grains of extract of opium per fluid ounce, corresponding to about 28 grains of opium. The B.P. preparation requires the extract of 33 grains of opium per fluid ounce ; not reliable.
7131	·945	39·3	do Opium extract, 3 1 p. c., contains 13·44 grains of opium extract per fluid ounce, corresponding to about 22 grains of opium per fluid ounce, the B.P. require the extract of 33 grains ; not reliable.
7132	·821	90·64	Sp. vini rectifi. Answers all the tests of the U.S.P. ; good.
7133	·951	.....	Sp. ether nit. Total acidity 0·67 p. c. ; a trace of nitrite of ethyl ; contains about 50 p.c. by measure, of water added ; answers none of the tests of the pharmacopœia ; turbid and matters in suspension adulterated and thereby useless as a drug.
7134	·824	89·54	Sp. vini rectifi. Answers all the tests of the pharmacopœia, but 1½ degree too low according to U.S.P. ; fair.
7135	·826	88·56	do Answers all the tests of the U.S.P., except 2½ degrees too low ; fair.

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APPENDIX C—INSPECTION OF FOOD AND DRUGS—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.
1888.					
May 7...	F. X Valade	Kingston	1928	J. Skinner & Co....	Ottawa..... ...
do 7...	do	do	1929	H. F. McCarthy..	do ....
do 11...	W. H. Ellis.....	Toronto	387	Wesley & Hoar.....	Toronto .....
do 11...	do	do	388	B. Tacks.....	do .....
do 11...	do	do	389	Robert Weir	do .....
do 11...	do	do	391	Stott & Jury	do .....
do 29...	do	do	2501	A. E. Kennedy.....	do .....
do 29...	do	do	2502	Hooper & Co.....	do .....
do 29...	do	do	2503	J. D. Matheson	do .....
do 29 ..	do	do	2504	R. Deyell	Port Hope.....
do 29...	do	do	2505	H. Sherris & Co	Toronto .....
do 29...	do	do	2506	W. H. Scripture.....	do .....
do 29...	do	do	2507	F. W. Flett.	do .....
do 29...	do	do	2508	G. A. Mitchell.....	Port Hope..... ...
do 29...	do	do	2509	T. G. Watson	do .....
do 29...	do	do	2510	C. W. Cryderman.	Toronto .....
do 29...	do	do	2511	G. A. Larkin	do .....
do 29...	do	do	2512	W. L. Wood	do .....
do 29...	do	do	2513	J. Higginbottom.....	Bowmanville ....
do 29...	do	do	2514	J. Gibbons & Co	Toronto .....
do 29...	do	do	2515	T. H. Bothan.....	do .....
do 29...	do	do	2516	C. P. Pickering.	do .....

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DRUGS—Tabulated Statement, &c.—*Continued.*

Concluded.

No. of Sample.	Results of Analysis.		Observations and Remarks.
	Specific gravity.	Alcohol by weight.	
	p c.	p c.	
7136	1·015	.....	Quiniæ vinam. Contains about 0·22 grains of quinine per fluid ounce; turbid and considerable deposit; acid reaction; too weak in quinine; should contain 1 grain per fluid ounce.
7137	1·005	.....	do Contains about 0·23 grains quinine per ounce; perfectly limpid; no deposit; acid reaction; too weak in quinine. Should contain 1 grain per fl. ounce.
7101	.....	.....	Ferri et ammon cit. Contains ferric oxide 26·90, ammonia 7·05, citrate acid genuine.
7103	.....	.....	do do 28·90 do 6 60 do
7104	.....	.....	do do 41·70 do 5 27 do
7106	.....	.....	do do 37·90 do 5·61 do
70	.....	.....	Tinc. opii. Contains 3·6 grains of morphia per ounce; genuine.
72	.....	.....	do do 3·1 do do
71	.....	.....	do do 3 do do
7108	.....	.....	do do 3· do do
73	.....	.....	Vini quinin. do ·65 grains of quinine sulphate do
74	.....	.....	do do ·6 do do
75	.....	.....	do do ·13 do not of proper strength as provided by B.P.
7110	.....	.....	do do ·61 do genuine.
7112	.....	.....	do do ·6 do do
79	.....	.....	Ferri et quinin cit Contains 14·7 grains of quinine do
80	.....	.....	do do 14·4 do do
7102	.....	.....	do do 14 6 do do
7105	.....	.....	do do 3·7 do Below the British and American standard.
67	.....	.....	Sp, ether nit. Contains about 1 p c. of nitrous ether. Below pharmacopœia strength.
68	.....	.....	do do 1 do do
69	.....	.....	do do ·64 do do

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APPENDIX C—INSPECTION OF FOOD AND

LIQUORS—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1887.						
Nov. 10...	M. Bowman	Nova Scotia	39	Alex. Cameron	Pictou	3328
do 10...	do	do	40	Chas. McKenzie	New Glasgow	3331
do 10...	do	do	41	J. C. Graham	do	3332
do 10...	do	do	42	Chas, Gallant	Pictou	3333
do 10...	do	do	43	P. S. Brown	do	3336
do 10...	do	do	44	Mrs. Henderson, W.	do	3337
do 10...	do	do	45	Alex. Cameron	do	3329
do 10...	do	do	46	Chas. McKenzie	New Glasgow	3330
do 10...	do	do	47	Chas. Gallant	Pictou	3334
do 10...	do	do	48	Mrs. Jas. Cameron	do	3335
Dec. 9...	do	do	49	Jas. Carroll	Halifax	5388
do 9...	do	do	50	Wm. Sutton	do	5389
do 9...	do	do	51	Ar. Monaghan	do	5390
do 9...	do	do	52	Mary Murrens	do	5391
do 9...	do	do	53	Thos. Cahalan	do	5392
do 9...	do	do	54	Geo. Faltz	do	5393
do 9...	do	do	55	Edw. Griffin	do	5394
do 9...	do	do	56	Thos. Major	do	5396
do 9...	do	do	57	Robt. J. Forrestall	do	5396
do 9...	do	do	58	John Courting	do	5397
do 9...	do	do	59	Wm. Whalen	Sydney, C.B	1
do 9...	do	do	60	Angus McKenzie	do	2
do 9...	do	do	61	Susan O'Neill	do	3
do 9...	do	do	62	S. Burns	do	4
do 9...	do	do	63	John McMullen	do	5
do 9...	do	do	64	Wm. Whalen	do	1
do 9...	do	do	65	Angus McKenzie	do	2
do 9...	do	do	66	Susan O'Neill	do	3
do 9...	do	do	67	S. Burns	do	4
do 9...	do	do	68	John McMullen	do	5
do 9...	do	do	69	Thomas Gannon	do	6
do 9...	do	do	70	John Smith	do	7
Oct. 20...	W. F. Best	New Brunswick	426	Jos. Cain	St. John	6180
do 20...	do	do	427	John Riley	do	6181
do 17...	do	do	428	Thos. Woodburn	do	6182
do 20...	do	do	429	John Patton	do	6183
do 20...	do	do	430	Wm. McDonough	do	6184
do 12...	do	do	431	Abram Whitebone	do	6185
do 12...	do	do	432	Wm. Koop	do	6186
do 12...	do	do	433	Maritime Importing Co.	do	6187
do 12...	do	do	434	Thos. Foley	do	6188
do 12...	do	do	435	Henry Maher	do	6189
do 28...	M. Fiset	Quebec.	901	Felix Guilet	Quebec	6529
do 28...	do	do	902	Oviele Lemieux	do	6530
do 28...	do	do	903	Honore Breaud	do	6531
do 28...	do	do	904	Cy. Chamberlain	do	6532
do 28...	do	do	905	Camille Cordolias	do	6533
do 28...	do	do	906	Jos Robitaille	do	6534
do 28...	do	do	907	Peter McFarland	do	6535
do 28...	do	do	908	do	do	6536
do 28...	do	do	909	Albert Patry	do	6537
do 28...	do	do	910	do	do	6538

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DRUGS—Tabulated Statement, &c.—*Continued.*

WINES.

Results of Analysis.					Observations and Remarks.
Specific Gravity	Alcohol. Volume.	Alcohol. Weight.	Solids.	Ash.	
p. c.	p. c.	p. c.	p c	p. c.	
0·921	56·35	48·55	0·07	.....	Gin ; unadulterated ; free from methyl alcohol.
0·916	43·30	36·50	0·05	.....	do do do
0·942	45·34	38·17	.....	.....	do do do
0·930	52·20	44·55	0·25	.....	do do do
0·952	39·94	33·29	0·05	.....	do do do
0·942	45·71	38·50	0 02	.....	do do do
0·914	59·93	54 09	0·002	.....	Scotch Whiskey ; unadulterated ; free from methyl alcohol.
0·940	49·61	42·10	0·05	.....	do do do
0·876	67 36	59·65	0 07	.....	do do do
0·939	47·40	40·05	0·17	.....	do do do
·937	48·64	41·20	0 25	.....	Gin do
·953	39·54	32·94	0·75	.....	Rye Whiskey do but low in alcohol.
·950	41·26	34·48	0·22	.....	Gin do
·959	35·81	29 65	0 25	.....	Rye Whiskey do do
·948	42 56	35 65	·075	.....	Gin do
·954	38 75	32·25	·100	.....	Rye Whiskey do do
·938	48 21	40·50	·013	.....	Gin do
·941	46·26	39 00	·044	.....	do do
·948	41·84	35·00	·050	.....	do
·950	41·42	34·62	·100	.....	Rye Whiskey ; not adulterated.
·950	41·05	34 29	·050	.....	Scotch Whiskey do
·956	37 14	30 83	.....	.....	do do low in alcohol.
·935	49·88	42 33	·075	.....	do do
·963	32 03	26·40	·125	.....	Rye Whiskey ; adulterated ; diluted.
·943	46 28	39 00	·500	.....	do not adulterated.
·940	46 64	39·35	·025	.....	Gin do
·916	58 45	50 61	·038	.....	do do
·942	45 83	38 61	.....	.....	do do
·942	45·19	38 39	·015	.....	do do
·942	45 71	38 50	·015	.....	do do
941	46 53	39·25	·025	.....	do do
941	46·48	39 20	·027	.....	do do
9551	36·40	30·25	12 00	0·006	Irish Whisky do
9390	39·70	33·15	00·55	0 002	Gin ; fusel oil trace.
9523	45·85	38·60	00 70	0 012	do do detected.
9302	51·00	44·00	00·55	0·005	do of fair quality ; fusel oil detected.
9634	28·75	23·60	00·34	0·006	Scotch Whisky do do
9580	36 50	30·40	01·50	0·009	Irish do not adulterated.
9595	32 70	27·00	00 95	0 007	do do of fair quality ; fusel oil trace, but low in alcohol strength.
9398	39·70	33·15	00·34	0·006	Gin ; fairly good ; fusel oil.
9507	35·75	29·70	00·54	0·005	do of fair quality do
9456	40·00	33·10	01·40	0 010	do do do
			Ving'r	meth'l	
.....	.....	.....	28·00	traces	Whisky ; fair sample ; much diluted.
.....	.....	.....	40 00	traces	do good.
.....	.....	.....	38·00	.....	do fair.
.....	.....	.....	31·500	traces	do do
.....	.....	.....	38·00	.....	do good.
.....	.....	.....	33·00	.....	do do
.....	.....	.....	41·500	.....	do do contains no methyl and amyl alcohol.
.....	.....	.....	35·400	.....	do do
.....	.....	.....	32 000	.....	do do
.....	.....	.....	38·00	.....	do do

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Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor	Residence.	No. of Sample.
1887.						
Oct. 28...	M. Fiset	Quebec	911	F. X. Couture	Quebec	6539
do 28...	do	do	912	do	do	6540
do 28...	do	do	913	Geo. Lambert	do	6541
do 28...	do	do	914	Alp. Desloriers	do	6542
do 28...	do	do	915	Joseph Bolduc	do	6543
do 28...	do	do	916	Thos. Robitaille	do	6544
do 28...	do	do	917	Theophile Chamberland	do	6545
do 28...	do	do	918	A. Turgeon	do	6546
do 28...	do	do	919	Theop. Parent	do	6547
do 28...	do	do	920	Michel Ladriere	do	6548
do 28...	do	do	921	Chas. Parent	do	6549
do 28...	do	do	922	John Satcliffe	do	6550
do 28...	do	do	923	Berube & Chournan	do	6551
do 28...	do	do	924	Oliver Potvin	do	6552
do 28...	do	do	925	Paquet & Potvin	do	6553
do 22...	J. B. Edwards	Montreal	1254	F. E. Darche & Son	Sherbrooke	3242
do 22...	do	do	1255	Jas. C. Henry	do	3243
do 24...	do	do	1256	Oliver Desrinson	do	3247
do 24...	do	do	1257	L. H. Guay	do	3244
do 24...	do	do	1258	Fortier & Therien	do	3245
do 24...	do	do	1259	H. O Fortier	do	3246
do 24...	do	do	1260	Narcers Gasselin	Montreal	7220
do 24...	do	do	1261	Theo. Migeron	do	7221
do 24...	do	do	1262	Ensèbe Orenir	do	7222
do 24...	do	do	1263	Adelard Gauthier	Three Rivers	7223
do 24...	do	do	1264	do	do	7224
do 24...	do	do	1265	Louis Bergeron	do	7225
do 24...	do	do	1266	do	do	7226
do 24...	do	do	1267	Jas Larasseur	do	7227
do 24...	do	do	1268	J. A. Riendeau	Longueuil	7228
do 24...	do	do	1269	F. X. E. Maillé	Longueuil	7229
do 24...	do	do	1270	Théop. Bourdon	do	7230
do 24...	do	do	1271	Auguste Beaudy	do	7231
do 24...	do	do	1272	Etiene Demers	do	7232
do 24...	do	do	1273	Mrs. Ed. Bernard	Montreal	7233
do 24...	do	do	1274	Mrs. Ed. Fenou	do	7234
do 24...	do	do	1275	Daniel Murray	do	7235
do 24...	do	do	1276	Jos. Meuvier	do	7236
do 24...	do	do	1277	Reni Arbour	do	7237
do 24...	do	do	1278	Napoléon Ouimet	do	7238
do 24...	do	do	1279	Thos Barry	do	7239
do 24...	do	do	1280	J. B Fofard	do	7240
do 24...	do	do	128	D. O Benson	do	7241
do 24...	do	do	1282	Matheu Rappel	do	7242
do 24...	do	do	1283	Alf. Symond	do	7243
do 24...	do	do	1284	Joseph Hatch	do	7244
do 24...	do	do	1285	Noraine Gauthier	do	7245
do 24...	do	do	1286	Joseph Holut	do	7246
Nov. 14...	F. X. Valade	Ottawa	1840	Wm. Ryan	Belleville	2428
do 14...	do	do	1841	Robt. Gibson	do	2429

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DRUGS—Tabulated Statement, &c.—*Continued.*

WINES—*Continued.*

Results of Analysis.						Observations and Remarks.
Specific Gravity.	Ash.	Proof Spirit.	Alcohol. Weight	Alcohol. Volume.	Solids.	
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
.....	.....	.....	.....	38·000	.....	Whiskey; good.
.....	.....	.....	.....	37·000	.....	do do
.....	.....	.....	.....	39·000	.....	do do
.....	.....	.....	.....	39·500	.....	do do
.....	.....	.....	.....	41·000	.....	do do slight traces of methyl alcohol.
.....	.....	.....	.....	42·000	.....	Gin; fair quality.
.....	.....	.....	.....	44·000	.....	do good; very slight traces of methylated alcohol.
.....	.....	.....	.....	40·000	.....	do do
.....	.....	.....	.....	38·000	.....	do do traces of methylated alcohol.
.....	.....	.....	.....	40·000	.....	do do
.....	.....	.....	.....	45·000	.....	do do
.....	.....	.....	.....	43·500	.....	do do
.....	.....	.....	.....	45·000	.....	do do
.....	.....	.....	.....	44·500	.....	do do
.....	.....	.....	.....	45·000	.....	do do
·940	4·92	41	.....	.....	.....	do not adulterated.
·960	34·00	28	.....	.....	.....	do do
·957	10·00	30	.....	.....	.....	do do
·955	38	31·1	.....	.....	.....	Rye whisky; not adulterated.
·951	4·20	34·6	.....	.....	.....	do do
·947	4·3	36	.....	.....	.....	do do
·965	2·53	21	.....	.....	.....	Whisky do
·952	38	31·5	.....	.....	.....	Gin do
·955	37·0	30·4	.....	.....	.....	Whisky do
·955	37·5	31·5	.....	.....	.....	Gin do residue traces only.
·965	33·5	27·9	.....	.....	.....	Whisky; adulterated with about half water; below standard of U. S. P.
·963	·31	26	.....	.....	.....	Whisky; adulterated with half water; strength of U.S.P.
·955	37·25	31	.....	.....	.....	Gin; adulterated by 10 per cent. water.
·945	38·5	32	.....	.....	.....	do not adulterated. (British Standard).
·965	35	29	.....	.....	.....	Rye whisky; of low standard; adulteration doubtful; 7° below par.
·970	.....	.....	·26	·31	.....	White whiskey; adulterated with water, ½ strength, U. S. P.
·955	.....	.....	·32	·38	.....	Gin; not adulterated; low standard; U. S. P.
·900	.....	.....	30·75	38·75	.....	do probably adulterated with 10 to 15 p.c. water.
·940	.....	.....	3·45	41·5	.....	do not adulterated.
·960	.....	.....	3·07	3·67	.....	Rye whiskey; adulterated with about 30 p.c. of water.
·958	.....	.....	·29	35·	.....	White do by over 30 do
·970	.....	.....	·26	31·	.....	Rye do nearly 50 do
·963	.....	.....	·27	33·	.....	White do to about 40 do
·954	.....	.....	2·95	35·75	.....	Gin; below standard; adulteration doubtful.
·957	.....	.....	·31	37·25	.....	Rye whiskey; adulterated to about 20 p.c. of water.
·940	.....	.....	3·45	41·5	.....	Gin; not adulterated.
·956	.....	.....	2·95	35·75	.....	do about 10 p.c. below par; adulteration doubtful.
·935	.....	.....	·43	51·	.....	do not adulterated; contains little sugar.
·949	.....	.....	·32	38·5	.....	do do weak by U. S. P.
95·35	.....	.....	3·45	40·0	.....	do do but weak.
·945	.....	.....	·32	38·5	.....	do not adulterated.
95·35	.....	.....	3·02	36·5	.....	do do
·949	.....	.....	·31	37·25	.....	do do under standard.
0·9686	0·004	55·78	26·2	32·59	0·08	Rye whiskey; adulterated with water and, perhaps, methyl alcohol; too weak in alcohol.
0·942	Trace.	81·83	39·40	46·7	0·008	Holland gin; good; traces of iron very distinct, and sulphate of lime.

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Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1887.						
Nov. 14...	F. X. Valade	Kingston	1842	Danl. Coyle	Belleville	2430
do 14...	do	do	1843	E. F Potts	do	2431
do 14...	do	do	1841	Wm. Taylor	do	2432
do 14...	do	do	1845	V. Carbonneau	Ottawa	6843
do 14...	do	do	1846	Godfrey Mareau	do	6844
do 14...	do	do	1847	Charles Daly	do	6845
do 14...	do	do	1848	J Goyette	do	6846
do 14..	do	do	1849	Samuel Davidson	do	6847
do 14...	do	do	1850	J. P. Hughes	Prescott	2525
do 14...	do	do	1851	J. Mayberry	do	2526
do 14...	do	do	1852	P. M. McCauley	do	2527
do 14	do	do	1853	Dennis Dris oll	do	2528
do 14...	do	do	1854	F. Trenholme	do	2529
do 14...	do	do	1855	A. J Maif	Cornwall	3416
do 14...	do	do	856	do	do	3417
do 14...	do	do	857	George Ross	do	3418
do 14..	do	do	1858	do	do	3419
do 14...	do	do	1859	D Cashion	do	3420
do 14..	do	do	1860	John Braddur	Kingston	2933
do 14...	do	do	1836	Elder Bros	do	2934
do 14...	do	do	1837	Robert Campbell	do	2935
do 14...	do	do	1838	Owen Ginnis	do	2936
do 14...	do	do	1839	R. J. Brown	do	2937
1888.						
Jan. 23...	W. H. Ellis	Toronto	2237	Dan Sullivan	Hamilton	1025
do 23...	do	do	2238	F. Shetter	do	1026
do 23...	do	do	2239	Geo Mills	do	1027
do 23...	do	do	2240	Jas. Burgess	do	1028
do 23...	do	do	2241	J. P. Harvey	do	1030
do 23..	do	do	2242	H. Bowden	do	1031
do 23...	do	do	2243	A. Dilton	do	1032
do 23...	do	do	2244	T. H. Bain	do	1033
do 23...	do	do	2245	Thos Grimes	Owen Sound	5604
do 23...	do	do	2246	Hy. Hale	do	5605
do 23...	do	do	2247	do	do	5606
do 23...	do	do	2248	D. J Kenny	do	5607
do 23...	do	do	2249	R. McKenny	do	5608
do 23	do	do	2250	W S. Crowe	Toronto	4107
do 23...	do	do	2251	Francis Hinson	do	4108
do 23...	do	do	2251	L. Dows & Son	do	4109
do 23..	do	do	2253	Walter Hynes	do	4106
do 23...	do	do	2254	D. C. McGuire	do	4104
do 23...	do	do	2255	A. Belmore	do	7021
do 23...	do	do	2256	S. Dandy	do	7022
do 23...	do	do	2257	A. Henderson	do	7023
do 23...	do	do	2258	. Kennedy	do	7024
do 23...	do	do	2259	John Evans	do	7025
do 23..	do	do	2260	E A. Jones	do	7026

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DRUGS—Tabulated Statement, &c.—*Continued.*

WINES—*Continued.*

Result of Analysis.						Observations and Remarks.
Specific Gravity.	Ash.	Proof Spirit.	Alcohol. Weight.	Alcohol. Volume.	Solids.	
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
0·9366	Traces	86·19	41·70	49·18	0·008	Holland gin; good; traces of iron and very distinct traces of sulphate of lime.
0·9526	do	72·93	34·29	41·10	0·30	Rye whiskey; a little too weak, and contains caramel; adulterated with water and caramel.
0·9455	do	77·96	36·83	43·87	0·08	Holland gin; good; traces of iron and sulphuric acid.
0·9629	0·03	56·82	26·73	32·43	0·06	Whiskey; too weak in alcohol, adulterated with water.
0·9618	Traces.	56·55	26·60	32·27	0·82	do sugar added and methyl alcohol detected.
0·9444	do	81·21	38·53	45·75	0·55	Gin; good; solids consist chiefly of sugar.
0·9546	do	71·67	34·16	40·88	0·78	do traces of iron and sulphate of lime.
0·96055	do	62·22	29·40	35·50	0··6	Gin; too weak in alcohol; should contain 65 p. c. proof spirit.
0·9408	do	81·15	39·58	46·85	0·006	Pure gin; good; traces of iron and sulphate of lime.
0·92985	do	91·06	44·82	52·45	0·006	do evident traces of iron and sulphate of lime.
0·9408	do	81·15	39·58	46·85	0·(03	do traces of iron and sulphate of lime.
0·9669	do	52·93	24·07	30·21	0·093	Whiskey; adulterated with water should contain 75 p. c. proof spirit.
0·9676	do	50·26	23·58	28·68	0·124	Whiskey; adulterated, about 25 p. c. water.
0·9388	do	46·9	21·9·	26·77	0·02	Gin; adulterated with water and plastered.
0·9741	do	68·50	32·61	38·80	0·10	Whiskey; Below English Standard.
0·9574	do	64·23	30·41	36·63	0·006	Gin; a fair sample, not quite to standard.
0·9635	do	57·53	27·09	32·86	0·25	Whiskey; too weak in alcohol.
0·95357	do	69·40	33·00	39·61	0·025	Gin; fair; traces of sulphate of lime.
0·9444	do	66·55	31·57	37·98	0·054	Rye whiskey; too weak; should contain at lest 75 p.c. proof spirit.
0·9174	do	76·67	36·73	43·75	0·27	Holland gin; good; traces of iron and sulphate of lime
0·9431	do	80·10	38·50	45·71	0·29	do
0·912	do	85·22	41·20	48·61	0·91	Whiskey; adulterated with sugar and the presence of methyl alcohol detected.
0·93687	do	85·34	41·25	48·69	0·018	Holland gin; good; traces of iron and sulphate of lime
.....	.....	.....	.....	.....	.....	Gin; not adulterated.
.....	.....	.....	.....	.....	.....	Holland gin; not adulterated.
.....	.....	.....	.....	.....	.....	Rye whiskey do
.....	.....	.....	.....	.....	.....	Tom gin do
.....	.....	.....	.....	.....	.....	do do
.....	.....	.....	.....	.....	.....	Rye whiskey do
.....	.....	.....	.....	.....	.....	Whiskey do
.....	.....	.....	.....	.....	.....	do do
.....	.....	.....	.....	.....	.....	Rye whiskey do
.....	.....	.....	.....	.....	.....	Gin do
.....	.....	.....	.....	.....	.....	do do
.....	.....	.....	.....	.....	.....	do do
.....	.....	.....	.....	.....	.....	do do
.....	.....	.....	.....	.....	.....	Whiskey do
.....	.....	.....	.....	.....	.....	Holland gin do
.....	.....	.....	.....	.....	.....	do do
.....	.....	.....	.....	.....	.....	Whiskey do
.....	.....	.....	.....	.....	.....	Holland gin do
.....	.....	.....	.....	.....	.....	Whiskey do
.....	.....	.....	.....	.....	.....	do do
.....	.....	.....	.....	.....	.....	Gin do
.....	.....	.....	.....	.....	.....	Whiskey do
.....	.....	.....	.....	.....	.....	Gin do
.....	.....	.....	.....	.....	.....	do do

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APPENDIX C—INSPECTION OF FOOD AND LIQUORS—

Date.	Name of Analyst.	District.	No of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1887.						
Jan. 23...	W. H. Ellis.	Ottawa	2261	M. McAuliff	Toronto	7027
do 23...	do	do	2262	M. B. Woodbury	do	7028
do 23...	do	do	2263	W. Parkhill	do	7029
do 23...	do	do	2264	J. Herbert	do	7030
do 23...	do	do	2274	John Hefferman	Guelph	
do 23...	do	do	2275	Dr. Hefferman	do	
do 23...	do	do	2276	John Hogan	do	
do 23...	do	do	2277	Richard Cody	do	
do 23...	do	do	2278	C. Saunck	do	
do 23...	do	do	2279	John Stewart.	do	
May 29...	do	do	2517	J. R. Lee	Toronto	61
do 29...	do	do	2518	C. D. Daniel & Co...	do	65
do 29...	do	do	2519	H Miller	do	66
do 29...	do	do	2520	R. Deyell	Port Hope	7107
do 29...	do	do	2521	G. A. Mitchell	do	7109
Jan 7...	J. E. Wright	Manitoba	2816	Basil Gerald...	Port Arthur	3904
do 7...	do	do	2817	W. J. Schuryler	do	3906
do 7...	do	do	2818	A. Sylvain	Winnipeg	5744
do 7...	do	do	2819	Z. Saporte	do	5746
do 7...	do	do	2820	Z. Ashburne	do	5748
do 7...	do	do	2821	M. Ripstein	do	5750
do 7...	do	do	2822	R. McBean	do	5751
do 7...	do	do	2823	Chas. Pilling	do	5755
do 7...	do	do	2824	A. Mulloy	do	5757
do 17...	do	do	2825	T. Selaurveau	do	5761
do 17...	do	do	2826	Basil Gerald	Port Arthur	3905
do 17...	do	do	2827	W. J. Schuryler	do	3907
do 17...	do	do	2828	Danl. Campbell	do	3908
do 17...	do	do	2829	A. Sylvain	Winnipeg	5745
do 17...	do	do	2830	Z. Saporte	do	5747
do 17...	do	do	2831	M. Ripstein	do	5749
do 17...	do	do	2834	Rodger & Co	do	5754
do 17...	do	do	2833	B. Moffatt	do	5753
do 17...	do	do	2832	R. McBean	do	5752
do 17...	do	do	2835	Chas. Edie	Brandon	5756
do 17...	do	do	2836	F. A. Tamblyn	do	5758
do 17...	do	do	2837	R. P. Milligan	do	5759
do 17...	do	do	2838	A. Kelly	do	5760
do 17...	do	do	2839	G. Ariel	Winnipeg	5762
do 17...	do	do	2840	F. Manday	do	5763

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DRUGS—Tabulated Statement, &c.—*Continued.*

WINES—*Concluded*

Results of Analysis						Observations and Remarks.
Specific Gravity.	Ash.	Proof Spirit.	Alcohol. Weight.	Alcohol. Volume.	Solids.	
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
.....	.....	.....	.....	.....	.....	Whiskey ; not adulterated.
.....	.....	.....	.....	.....	.....	Gin do
.....	.....	.....	.....	.....	.....	do do
.....	.....	.....	.....	.....	.....	do do
.....	.....	.....	.....	.....	.....	Whiskey do
.....	.....	.....	.....	.....	.....	Gin do
.....	.....	.....	.....	.....	.....	do do
.....	.....	.....	.....	.....	.....	do do
.....	.....	.....	.....	.....	.....	do do
.....	.....	.....	.....	.....	.....	do do
.....	89·7	.....	.....	.....	.....	Spt. vini recl. ; genuine.
.....	89 5	.....	.....	.....	.....	do do
.....	89·5	.....	.....	.....	.....	do do
.....	89 0	.....	.....	.....	.....	do do
.....	89·6	.....	.....	.....	.....	do do
9·9·04	·001	.....	29·20	36·53	1·93	Genuine ; solids excessive.
971·34	0·035	.....	20·25	24·78	92	Whisky ; genuine.
959 80	·018	.....	28 87	34·92	·207	Rye Whisky do
961·10	·004	.....	27·93	33 81	·446	do do
987·10	·004	.....	30·44	36 70	·106	do do
959·90	006	.....	21·38	26·12	·51	do do
965·30	·005	.....	24·92	30·30	·62	do do
956·60	·01	.....	23 92	29·12	·104	do do a pure spirit.
988·70	·009	.....	29·36	38 46	·138	do do
955·40	·005	.....	31·31	37·68	·516	Whisky do
·9635	·004	.....	26 20	31·60	·012	Geneva Gin do
·9600	·004	.....	28·56	34 54	·012	do do
·9638	·002	.....	25·86	31·41	·037	do not pure ; containing a quantity of aldehyde, which must be considered adulterated.
·9581	·002	.....	29·87	36·05	·068	Gin ; genuine ; free from drugs.
·9523	003	.....	33·15	37·40	·012	do not adulterated.
·9588	·006	.....	29·20	35·27	·047	Holland Gin ; not adulterated.
·9562	·003	.....	31 00	36 09	·516	do do of solids, crystalized sugar, extract of vanilla.
·9636	·018	.....	26·20	31·80	·274	Tom Gin ; not adulterated.
·9556	·005	.....	31·31	37·69	·060	Gin do
·9685	·010	.....	22·46	27·40	·234	Holland Gin do
·9887	·012	.....	31·31	37 69	·416	Gin do of solids, was composed of sugar (crys) and other flavoring matter.
·9633	·006	.....	26·20	31·79	4·148	Tom Gin ; genuine.
·9198	·008	.....	23·87	31·89	4·73	do do
·9485	·002	.....	35 25	42·11	·008	Holland Gin do
·9187	·001	.....	35·50	42·40	·004	do do

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APPENDIX C—INSPECTION OF FOOD AND

SPICES—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1888.						
Jan. 13...	M. Bowman	Nova Scotia	89	John Shea	Halifax	7615
do 13...	do	do	90	Hidley V. Wier	do	7621
do 13...	do	do	91	Davidson Bros	do	7625
1887.						
Dec. 8...	W. F. Best	New Brunswick	448	L. E. DeForest	St. John	6202
do 8..	do	do	451	C. J. McPherson	do	6208
1888.						
Jan. 18...	M. Fiset	Quebec	947	A. Waters	Quebec	6575
do 18...	do	do	950	A. Grenier	do	6578
do 2...	J. B. Edwards	Montreal	1299	Currie Bros.	Montreal	7259
do 2...	do	do	1303	O. C. Wright	do	7263
do 2...	do	do	1304	Decary Bros.	do	7264
1887.						
Dec. 30...	F. X. Valade	Kingston	1879	E. Paradis	Ottawa	6867
do 30...	do	do	1880	Kennedy & Co	do	6868
1888.						
May 7...	W. H. Ellis	Toronto	372	W. W. Playton	Newmarket	7043
do 7...	do	do	380	K. Chisholm & Co	Brampton	7054
do 7...	do	do	385	Jos Tomlin	do	7060
Feb. 15...	J. E. Wright	Manitoba	2819	S. Moffatt	Winnipeg	5777
do 15...	do	do	2860	Kie & Hague	do	5783

SPICES—

1888.						
Jan. 13...	M. Bowman	Nova Scotia	94	J. J. S. Kerry	Halifax	7614
do 13...	do	do	95	Thos. Major	do	7618
do 13...	do	do	96	Dillen Bros.	do	7620
1887.						
Dec. 8...	W. F. Best	New Brunswick.	449	R. D. Logan	St. John	6203
do 8 ..	do	do	455	Wm. Kennedy	do	6209
do 29 ..	M. Fiset	Quebec	941	J. O'Donnell	Quebec	6569
do 29...	do	do	943	A. A. Cantin	do	6571
1888.						
Jan. 4...	J. B. Edwards	Montreal	1302	O. C. Wright	Montreal	7261
do 4...	do	do	1309	Decary Bros	do	7269
do 4...	do	do	1315	Jos. Carrol	do	7275
1887.						
Dec. 30...	F. X. Valade	Kingston	1877	O. Sequin	Ottawa	6865
do 30...	do	do	1878	J. T. Madore	do	6866
1888.						
May 7...	W. H. Ellis	Toronto	369	R. J. Davison	Newmarket	7139
do 7...	do	do	374	J. H. Dalis	do	7046
do 7...	do	do	383	John Clarke	Brampton	7058
Feb. 15...	J. E. Wright	Manitoba	2856	Geo. Adam	Winnipeg	5774
do 15...	do	do	2857	M. Ripstein	do	5779

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DRUGS—Tabulated Statement, &c.—*Continued.*

GINGER.

Result of Analysis.			Observations and Remarks.
Moisture.	Oleo Resin.	Ash.	
p. c.	p. c.	p. c.	
9 73	3 58	8 04	Ginger only; not adulterated.
9 70	4 35	6·95	do do
10·20	3·85	6·77	do do
.....	.....	.....	Contains 20 per cent. turmeric; adulterated.
.....	.....	.....	do 40 do flour and turmeric; adulterated.
5·500	12·200	4 800	Adulterated by starch and turmeric.
7·200	18·300	3·960	do do
7·0	6·8	3 8	do contains starch, turmeric and cayenne.
4·2	12·4	2 8	do do do
7·4	8·	2·4	Genuine ginger.
9·00	5·80	2 92	Good.
9·30	5·54	3 54	do
6·95	.....	4·17	Genuine.
7 35	.....	3 85	do
7·00	.....	3·55	Flour; adulterated.
7 69	9·39	2 80	Genuine.
11·22	7·97	2·97	Genuine; of fair quality.

CLOVES.

17 12	24·61	7 34	Cloves only; not adulterated
11 47	15·60	7·84	Adulterated; contains a large amount of flour.
20 67	21·28	6·19	Cloves only.
.....	.....	.....	Not adulterated.
.....	.....	.....	Adulterated by removal of oil.
11·300	13·900	5 200	do with starch.
10·900	10·700	3·500	do do
6 6	10 0	5·2	do with maize and other starch.
3 6	14·1	9·0	do contains wood fibre.
5·6	10·0	5 8	do do
6·84	10·26	3 36	do adulterated with wheat flour.
9·06	17·52	6 60	do do
12 50	.....	7·50	do clove stalks.
13 05	.....	6·50	do starch.
11·87	.....	7·02	do contains stalks.
9·13	4 51	8 29	Genuine.
9 58	8·87	5·58	Adulterated; contains roasted grain.

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APPENDIX C—INSPECTION OF FOOD AND

SPICES—

Date.	Name of Analyst.	District.	No of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1888.						
Jad. 13...	M. Bowman.....	N.S. and P.E.I.	92	E. S. Hurley.....	Halifax.....	7628
do 13...	do	do ...	93	John Hogan.....	do	7629
1887.						
Dec. 8...	W. F. Best	New Brunswick.	4·6	Dearborn & Co.	St. John.....	6190
1888.						
Jan. 18...	M. Fiset	Quebec...	946	A. Waters.....	Quebec.....	6574
do 2...	J. B. Edwards.....	Montreal..	1298	Currie Bros.	Montreal.	7258
1887.						
Dec. 30...	F. X. Valade.	Kingston.....	1884	I. Shanley	Ottawa.....	6872
1888.						
May 7...	W. H. Ellis.	Toronto	370	Sutherland Bros.	Newmarket.....	7040
Feb 15...	J. E. Wright.....	Manitoba.	2862	F. Letourneau...	Winnipeg	5771

CINNA

1888.						
Jan. 13...	M. Bowman.....	Nova Scotia.....	99	W. H. Simpson.	Halifax.....	7612
do 13...	do	do	100	Jas. Scott & Co.	do	7622
do 13...	do	do	101	John A. Gass.	do	7623
do 13...	do	do	102	L. E. Brookes.....	do	7632
1887.						
Dec. 8...	W. F. Best.....	New Brunswick.	447	Irwin & King.....	St. John.....	6201
do 8...	do	do ..	453	T. P. Freeman	do	6207
do 29...	M. Fiset.....	Quebec.....	940	J. O'Donnel.....	Quebec.....	6568
do 29...	do	do	942	A. A. Cantin..	do	6570
1889.						
Jan. 2...	J. B. Edwards	Montreal.	1297	Currie Bros.....	Montreal..	7257
do 2...	do	do	1301	C. C. Wright.	do	7261
do 2...	do	do	1310	Decary Bros.....	do	7270
1887.						
Dec. 30...	F. X. Valade..	Kingston.....	1875	L. M. Loyer.....	Ottawa.....	6863
do 30...	do	do	1876	C. Stratton.....	do	6864
1888.						
May 7...	W. H. Ellis.....	Toronto.....	371	Buntin Bros.	Toronto.....	7042
do 7...	do	do	373	T. J. O'Malley	do	7045
do 7...	do	do	381	Thos. McComb	do	7055
Feb. 15...	J. E. Wright.....	Manitoba	2854	F. Letourneau	Winnipeg.....	5770
do 15...	do	do	2855	Geo. Adam.....	do	5775

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DRUGS—Tabulated Statement, &c.—*Continued.*

ALLSPICE.

Results of Analysis.			Observations and Remarks.
Moisture.	Oleo Resin	Ash.	
p. c.	p. c.	p. c.	
9·25	20 88	4·93	Allspice only.
8 85	19 85	3 92	do
.....	.....	.....	Not adulterated.
8·000	19·600	4·400	
7·4	13 6	7·2	Not adulterated; a little starch.
6 80	11·44	4·56	Adulterated with wheat flour.
5·47	.....	4 52	Adulterated by pea starch.
10·89	6·53	6 87	Genuine, but of poor quality.

MON.

8 63	11·57	2·51	Adulterated by substitution of cassia.
9·05	12 68	2·85	do do
9·00	15·35	3 55	do do
8 90	15·40	2·76	do do
.....	.....	.....	A mixture of cinnamon, cassia and starch.
.....	.....	.....	Adulterated by about 60 p. c. of cassia.
8·300	16 000	2 800	do starch and cassia.
8 600	15 000	2 400	do do
7 4	4·0	·52	do (if sold as pure) by cassia, ground.
7·6	14 8	·38	do about 10 p. c. starch and cassia.
7·6	·60	·38	do contains cassia and also wheat flour.
8·14	12·54	5 96	Good.
9 00	12·30	4 70	do
6 00	.....	5·15	Not adulterated.
5·45	.....	2·89	Ground cassia.
6·00	.....	3·15	do
4·74	5·97	3·89	Adulterated; a little sample moisture with forms of glutinous paste.
8·71	6·84	2·59	Genuine.

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APPENDIX C—INSPECTION OF FOOD AND

SPICES—

Date.	Name of Analyst.	District.	No of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1887.						
Dec. 29...	M. Bowman	Nova Scotia	71	Chas. H. Harvey	Halifax	7601
do 29...	do	do	72	C. & W. Anderson	do	7602
do 29...	do	do	73	W. A. Schwartz & Son	do	7603
do 29...	do	do	74	Ed W. Crease	do	7605
do 29...	do	do	75	W. Schwartz & Son.	do	7604
do 29...	do	do	76	Ed W. Crease	do	7606
do 29...	do	do	77	Forscythe, Sutcliff & Co	do	7608
do 29...	do	do	78	Thos. Major	do	7611
do 29...	do	do	79	Forscythe, Sutcliff & Co	do	7607
do 29...	do	do	80	W. J. Hopgood.	do	7609
do 28...	M. F. Best	New Brunswick.	440	Puddington & Merritt	St. John	6194
do 28...	do	do	441	do	do	6195
do 28...	do	do	442	D. Breeze	do	6196
do 28...	do	do	443	do	do	6199
do 28...	do	do	444	W. A. McGee.	do	6198
do 28...	do	do	446	Vanwart Bros	do	6200
do 28...	do	do	450	Scott Bros	do	6204
do 28...	do	do	451	do	do	6205
do 24...	W. Fiset	Quebec.	933	David Waters	Quebec	6560
do 24...	do	do	913	do	do	6561
do 24...	do	do	935	James Miller	do	6563
do 24...	do	do	936	do	do	6564
do 24...	do	do	937	Hardy & Drolet.	do	6565
do 24...	do	do	938	do	do	6566
do 24...	do	do	939	J. O'Donnel	do	6567
do 24...	do	do	914	D. W. Irone	do	6572

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DRUGS –Tabulated Statement, &c.—*Continued.*

PEPPER.

Results of Analysis.			Observations and Remarks.
Resin Extract.	Moisture.	Ash.	
p.c.	p.c.	p.c.	
8·30	9·00	19·84	Adulterated by various starches; cayenne, mustard husks.
10·38	10 30	8·25	do flour.
10·87	11·35	15·61	do very little starch; large excess of ash.
10·35	8·90	18·18	do flour; contains large excess of ash.
10·60	9·50	1·32	Genuine.
7 85	10 55	11·40	Adulterated; flour; contains large excess of ash.
10·45	11·80	1·25	Genuine.
10·35	11·70	1 33	do
18·60	5 80	4·80	do
17 30	6·85	4 75	Adulterated with flour.
.....	.....	4·15	Adulterated with 20 per cent. flour; contains starch granules.
.....	.....	4 25	do with a small amount of anter husks.
.....	.....	3·20	do do do
.....	.....	5·40	Genuine.
.....	.....	6 10	Adulterated to a slight extent.
.....	.....	.....	Genuine; cayenne pepper.
.....	.....	.....	do
.....	.....	.....	Adulterated with pepper husks.
alcoh'l extract			
8·000	9·800	1·600	Adulterated by addition of starch.
14·200	7·800	14·300	do do
11 700	10 600	6 80(	Quantity of starch fibres.
8 900	11·200	1·000	Adulterated by addition of starch.
9·600	9·400	10·700	do with magnetic sand.
8·400	8 600	1·900	do with starch
32·900	8·300	4 800	do with magnetic sand.
14·000	7·700	9·000	do starch, large quantities.

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APPENDIX C—INSPECTION OF FOOD AND

SPICES—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.
1888.					
Jan. 2...	J. B. Edwards.....	Montreal..	1296	Currie Brcs...	Montreal . .....
do 2...	do	do	1300	C. C. Wright.....	do .....
do 10...	do	do	1306	Decary Bros.	do .....
do 10...	do	do	1307	do	do .....
do 12...	do	do	1308	do	do ... .
do 14...	do	do	1311	do	do .....
do 14...	do	do	1312	F. P. Moran ....'.	do .....
do 14...	do	do	1313	do	do ... .
do 16...	do	do	1314	Jos. Carroll.	do .....
do 25...	do	do	1316	Willison Bros.....	do .....
1887.					
Dec. 30...	F. X. Valade	Kingston	1860	McLeod & Co.....	Ottawa..... .....
do 30...	do	do	1861	Wm. Wall.....	do ....
do 30...	do	do	1862	Charlebois et Frère.....	do ....
do 30...	do	do	1863	Wm. Wall	do ....
do 30...	do	do	1864	McLeod & Co.....	do ....
do 30...	do	do	1865	Charlebois et Frère..... ..	do ....
do 30...	do	do	1866	.. ..	... .
do 30...	do	do	1867	Rb. Browne.....	do ....
1888.					
May 7...	W. H. Ellis.....	Toronto	364	A. Roberts'on.....	Newmarket.....
do 7...	do	do	365	J. J. Bailey	do .....
do 7...	do	do	366	R. A. Smith	do .....
do 7...	do	do	367	E. B. Compton & Co.....	do ... ...
do 7...	do	do	368	J. R. Mader	do .....
do 7...	do	do	376	W. E. Milner & Co	Brampton. .....
do 7...	do	do	377	Jos. Sutcliff & Son.....	do .....
do 7...	do	do	378	P. A. Crandell	do .....
do 7...	do	do	379	K. Chisholm & Co..	do .....
do 7...	do	do	382	John Clarke.	do .....
Feb 7...	J. E. Wright..	Manitoba	2848	Turner & Despars	Winnipeg .....
do 7...	do	do	2849	F. Letourneau-	do .....
do 7...	do	do	2850	Geo. Adam	do .....
do 7...	do	do	2851	Turner & Despars	do .....
do 7...	do	do	2852	M. R.patein.	do .....
do 7...	do	do	2853	Hodges & Co.....	do .....
do 15...	do	do	2863	Turner & Despars	do .....
do 15...	do	do	2864	Kie & Hague.....	do ....

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DRUGS—Tabulated Statement, &c.—*Continued.*

PEPPER.

No. of Sample.	Results of Analysis.			Observations and Remarks.
	Moisture.	Resin Extract.	Ash.	
	p. c.	p. c.	p. c.	
7256	7·2	6·07	8·2	Adulterated; contains 20 p. c. wheat starch.
7260	10·8	6·47	4·0	Genuine.
7266	8·2	11·2	2·8	Adulterated; contains cereals, starch and millings.
7267	8·4	8·4	4·8	do do do to 20 p c.
7268	8 6	14·1	5·5	Adulteration doubtful; some starch and millings.
7271	6·4	6 8	13·2	Adulterated; cereal, starch, millings and excess of sand.
7272	6·6	13·6	11·2	do large amount of starch and millings.
7273	4·0	6 0	5·0	Genuine, but low quality.
7274	6·8	13·2	3·2	do
7276	·6	5·5	3·0	Adulterated by Indian corn and millings to 30 p.c.
6848	7 91	11·34	15·30	Sand, 8·64 per cent.; adulterated by flour, earthy matter and sand.
6849	8·18	9 64	13 16	Sand, 7·04 do do do do
6850	9·12	9·44	12·40	Sand, 6 90 do do do do
6851	8·75	8·42	2·49	Largely adulterated with wheat flour.
6852	10 53	8·65	1·89	do do
6853	9·76	9·50	3·42	do do
6854	4·49	28·90	5·41	Good cayenne pepper.
6855	6 74	17·06	6·53	Cayenne pepper, contains Ferric oxide, 1 91 p c.; sulphate of lime, 2 19 p.c; wheat flour and turmuric, 30 p.c.; adulterated.
7032	6·50	....	8·20	Genuine.
7034	5·12	....	4·30	Adulterated by a mixture of flour.
7136	7·75	....	2·90	Contains a little flour.
7037	7·25	....	2 80	Adulterated by a mixture of flour and cayenne.
7038	4·60	8·80	6 95	do do 50 p.c. corn starch.
7048	6·07	....	15·95	Not adulterated; pure.
7049	6·95	....	11·90	do
7051	6·85	....	2·10	Adulterated by a mixture with flour.
7053	7·15	....	1·30	Not adulterated.
7057	4·30	10·40	5·90	Adulterated by a mixture of 40 p.c. of flour and corn starch.
5764	5 73	7·27	6·66	Not pure; shows capsicum, mustard husks, millings to 25 p.c.
5772	4·03	8·24	2·40	do wheat flour an excess of pepper husks.
5773	6·21	7·76	5·75	Genuine.
5765	7·79	4·33	2·84	Not pure; capsicum present.
5778	9·06	3·19	5·58	do wheat flour and a large amount of millings.
5785	6·95	7·09	2·02	Genuine and of fair quality.
5766	4·24	12·24	4·80	do
5782	5·14	14·35	5·64	do

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APPENDIX C—INSPECTION OF FOOD AND

SPICES—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.
1886.					
Jan. 15...	M. Bowman	Nova Scotia	98	T. F. Courtney	Halifax
1887.					
Dec. 8...	W. F. Best	New Brunswick.	459	Jardine & Co	St. John
1888					
Jan. 3..	M. Fiset	Quebec	948	A. Waters	Quebec
do 3...	do	do	949	A Grenier	do
do 26...	J. B. Edwards	Montreal	1317	S. McA. S. Ewing	Montreal..
do 26...	do	do	1318	J. J. Duffy & Co	do
1887.					
Dec. 30...	F. X. Valade	Ottawa	1881	C. Stratton	Ottawa.
do 30...	do	do	1882	George Forde	do
1888					
May 7...	W. H Ellis	Toronto	384	John Rannie	Brampton
do 7...	do	do	386	A. M. Sinclair	Toronto.
Feb. 15...	J E. Wright	Manitoba.	2858	Hodges & Co	Winnipeg

MACE.

1888.					
Jan. 13...	M. Bowman	Nova Scotia	97	R Urquhart & Son	Halifax
1887.					
Dec. 8...	W. F. Best	New Brunswick.	439	Jardine & Co	St. John.
1888.					
Jan. 18...	M. Fiset	Quebec	915	A. Waters	Quebec
do 6...	J. B. Edwards	Montreal.	1305	Decary Bros.	Montreal
1887.					
Dec. 30...	F. X. Valade	Kingston	1883	Eb. Browne.	Ottawa
1888.					
May 7...	W. H. Ellis.	Toronto	375	W. E. Milner & Co	Toronto.
Feb. 18..	J. E. Wright	Manitoba.	2861	Hodges & Co	Winnipeg

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DRUGS—Tabulated Statement, &c.—*Continued.*

NUTMEGS.

No. of Sample.	Results of Analysis.			Observations and Remarks.
	Moisture.	Resin Extract.	Ash.	
	p. c.	p. c.	p. c.	
7631	7·83	39·10	3·56	Not adulterated.
6213	.....	.....	.....	Pure ; contains nothing.
6576	10·700	33·400	.....	Genuine.
6579	10·100	36·300	.....	do
7277	4·0	1·76	·22	Adulterated by roasted corn and bread crumbs to about 40 p.c.
7278	5·4	2·72	·32	Genuine.
6819	5·20	37 30	2·82	Good.
6870	5 94	32·42	5·18	Adulterated by wheat flour.
7059	6·70	32·80	3·40	Genuine.
7062	11·45	36·12	2·85	do
5786	8·11	18·24	3 00	do
7610	10·48	24 05	2·11	Not adulterated.
6191	.....	.....	.....	do no mixture detected.
6573	4·500	29·100	.....	Genuine.
7265	5·6	22·8	2·4	Adulterated ; contains cereal starch, 30 to 40 p c.
6871	8·08	32·26	2·21	Adulterated ; a small amount of wheat flour.
7047	7·18	3·35	19·35	do by a mixture with flour.
5787	10·26	12 55	1·78	do by starch and tumeric to the extent of 50 p.c.

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Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1887.						
Dec. 29...	M. Bowman.....	Nova Scotia.....	81	John Courtney	Halifax.....	7613
do 29...	do	do	82	John Baker	do	7616
do 29...	do	do	83	Robt. T. Forrestall	do	7617
do 29...	do	do	84	Thos. S. Lownds.....	do	7619
do 29...	do	do	85	W. B. Spencer.....	do	7624
do 29...	do	do	86	John D. Greenway.....	do	7626
do 29...	do	do	87	R. N. McDonald	do	7627
do 29...	do	do	88	Martin Flinn.....	do	7630
do 8...	W. F. Best.....	New Brunswick.	456	Tippett, Burdett & Co....	St. John.....	6210
do 8...	do	do ...	438	Geo. Robertson & Co.....	do	6192
do 8...	do	do ...	439	Taylor & Dockville.....	do	6193
do 8...	do	do ...	445	W. A. McGee.....	do	6199
do 8...	do	do ...	452	W. A. Porter.....	do	6206
do 8...	do	do ...	457	Tippett, Burdett & Co....	do	6211
do 8...	do	do ...	459	G. A. Parker	do	6212
do 15...	M. Fiset.....	Quebec.....	926	D. Martinette.....	Quebec.....	6554
do 15...	do	do	927	Jos. Darveau.....	do	6555
do 15...	do	do	928	A. A. Cantin.....	do	6556
do 15...	do	do	929	A Barry.....	do	6557
do 15...	do	do	930	Art Drolet.....	do	6558
do 15...	do	do	931	Art Drolet	do	6559
do 15...	do	do	934	David Waters	do	6562
do 20...	J. B. Edwards.....	Montreal.....	1287	P. E. Garrison & Co	Montreal	7247
do 20...	do	do	1288	Thos. Gauthier.....	do	7248
do 21...	do	do	1289	do	do	7249
do 21...	do	do	1290	do	do	7250
do 21...	do	do	1291	P. Lagarde & Co...	do	7251
do 21...	do	do	1292	do	do	7252
do 21...	do	do	1293	do	do	7253
do 21...	do	do	1294	Joseph Cusson.....	do	7254
do 21...	do	do	1295	do	do	7255
Dec. 30...	F. X. Valade	Kingston.....	1868	McLeod & Co	Ottawa	6856
do 30...	do	do	1869	O. Seguin	do	6857
do 30...	do	do	1870	J T. Madore.....	do	6858
do 30...	do	do	1871	E. Paradis.....	do	6859
do 30...	do	do	1872	L. N. Loyer.....	do	6860
do 30...	do	do	1873	Kennedy & Co.....	do	6861
do 30...	do	do	1874	James Stanly	do	6862
1888.						
Feb. 28...	W. H Ellis..	Toronto	2265	Andy Robertson.....	Newmarket.....	7031
do 28...	do	do	2266	J. J. Bailey	Toronto.....	7033
do 28...	do	do	2267	R. A Smith	do	7035
do 28...	do	do	2268	Bunton Bros	do	7041
do 28...	do	do	2269	M. Lundy	do	7044
do 28...	do	do	2270	Joseph Sutcliffe & Son....	do	7050
do 28...	do	do	2271	E. H. Crandell.....	do	7052
do 28...	do	do	2272	Mrs. Edwards.....	do	7056
do 28...	do	do	2273	J. A. Wilson.....	do	7061
Jan. 17...	J. E. Wright.....	Winnipeg.....	2841	Turner & Despars.....	Winnipeg.....	5767

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DRUGS—Tabulated Statement, &c.—*Continued.*

TARD.

Results of Analysis.				Observations and Remarks.
Oil.	Moisture.	Ash.	Farina.	
p. c.	p. c.	p. c.	p. c.	
13·60	7·35	5·12	.....	Adulterated: below standard; flour.
21·80	7·00	2·77	.....	Up to standard; contains flour.
23·90	6·25	3·00	.....	do do
22·20	6·45	2·98	.....	do do
22·45	5·87	3·08	.....	do do
20 55	6·90	6·43	.....	do being deficient in fixed oil.
22 95	7·53	2·95	.....	do contains flour.
22·.5	6·50	2·90	.....	do do
.....	.....	.....	.....	Adulterated; contains 40 p. c. flour and tumeric.
.....	.....	.....	.....	Not adulterated; genuine.
.....	.....	.....	.....	Adulterated by flour and tumeric to 26 50
.....	.....	.....	.....	do tumeric and starch to 60 p. c.
.....	.....	.....	.....	Contains 60 p. c. flour; marked compound.
.....	.....	.....	.....	Adulterated by flour and tumeric to 60 p. c.
.....	.....	.....	.....	do do 65 p. c.
22·000	5·600	3·000	.....	Adulterated by addition of starch.
22·800	5·700	2·900	.....	do do
27·000	5·000	3 600	.....	do do
20·000	6·400	2·600	.....	do do
24·800	5 000	3·500	.....	Pure; very few cells of starch; accidentally, not fraudulently mixed.
12·000	9 500	4·700	.....	Adulterated by flour, curcumos, starch to 70 and 75 p. c.
3·.240	4·100	3·400	.....	Good; starch mixed in very small quantities.
·10	·2	4·7	5·0	Adulterated under the regulation G. 120, 1884; large proportion wheat starch.
·56	·4	3·04	5·0	Not adulterated; contains cayenne pepper and salt.
1·60	·22	·48	.....	Not adulterated; contains cayenne and salt.
16·4	·4	4·16	5·0	Contains turmeric and cayenne.
12·4	4·18	5·5	6·0	Adulterated; contains cake, turmeric, cayenne and salt.
8·4	7·6	4·0	5·0	Not adulterated; contains cayenne and turmeric.
·20	6·2	·6	5·0	Adulterated; contains turmeric and cayenne
14·8	6·8	7·6	5·0	do do farina, turmeric and cayenne.
·16	6·8	7·8	5·0	do do do do
32·48	4·46	3·66	.....	Good; beans and wheat flour, about 8 p. c.
7·6	8·56	3·30	.....	Adulterated with about 80 p. c. of wheat and tapioca flour, and potato starch.
11·66	6·76	4·38	.....	Adulterated with wheat, turmeric and fibres, 70 p. c.
13·78	7·50	2·80	.....	do do flour and turmeric, about 60 p. c.
7·68	9 00	3·6	.....	do do fibres, turmeric, potato arrow root, about 80 p. c
30·5	4·76	3·40	.....	A fair mustard; wheat, flour and turmeric, about 14 p. c.
21 24	4·74	3·52	.....	do do do 40 p. c.
20·00	4·20	5·65	.....	Genuine mustard.
23·37	3·90	3·10	.....	About 30 to 40 p. c. flour, turmeric and starch.
33·85	5·02	3·87	.....	Genuine; very little flour.
23·37	3·95	37·10	.....	Mustard mixed with between 30 to 40 p. c. flour.
13·62	3·15	23·25	.....	Adulterated by being mixed with flour and gypsum.
11·29	4·85	3·40	.....	do do flour.
8·52	5·30	3·10	.....	do do over 40 p. c. wheat flour.
20 42	4·20	.....	.....	Genuine Mustard, from which about half the fixed oil has been removed.
14·80	4·75	6·26	.....	Mustard mixed with under 40 p. c. of wheat flour.
9·24	6·46	2·43	.....	As represented, a compound, containing about 25 p. c. of mustard and made up of turmeric and flour.

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APPENDIX C—INSPECTION OF FOOD AND

MUSTARD

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Vendor.	Residence.	No. of Sample.
1888.						
Jan. 17...	J. B. Wright.....	Winnipeg.....	2842	Turner & Despars.....	Winnipeg.....	5768
do 17...	do	do	2843	F. Letourneau	do	5769
do 17...	do	do	2844	B. Moffatt.....	do	5776
do 17...	do	do	2845	M. Ripstein.....	do	5780
do 17...	do	do	2846	do	do	5781
do 17...	do	do	2847	Kie & Hogue.....	do	5784

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DRUGS—Tabulated Statement, &c.—*Continued.*

Concluded.

Result of Analysis.				Observations and Remarks.
Oil.	Moisture.	Ash.	Farina.	
p. c.	p. c.	p. c.	p. c.	
31·34	4·78	3·93	.....	Shows a small quantity of flour present.
8·48	6·36	2·64	.....	Adulterated, although sold as not pure, shows flour and turmeric.
36·40	3·82	3·92	.....	Genuine flour the only foreign substance contained.
34·56	3·78	3·89	.....	Genuine; flour present in compound shows only a small percentage in coloring matter.
11·48	7·06	4·25	.....	Adulterated; contains flour and turmeric.
24·39	5·40	5·75	.....	Genuine; mustard deficient in fixed oils, shows a minute quantity of coloring matter.

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Date.	Name of Analyst.	District.	No. of Analyst's Report.	Source.	—	No of Sample.	In parts. Total Solids. Dry at 100° C.	Loss on ignition.
1888.							p. c.	p. c.
April 21	M. Bowman.....	Nova Scotia	103	From Long Lake.	Halifax	1	2·3	1·6
do 21	do ...	do	104	Lower Chain Lake	do	2	2·7	1·5
do 21	do ...	do	105	Tap	do	3	2·6	1 6
do 21	do ...	do	106	do	do	4	3 0	1 8
do 21	do ...	do	107	do	do	5	3 5	2·0
do 21	do ...	do	108	do	do	6	3·6	1·9
do 21	do ...	do	109	do	do	7	4·2	2·7
do 21	do ...	do	110	Well.	Pictou.	8	10·2	3·2
do 21	do ...	do	111	Stand pipe.	do	9	9·	2·8
do 21	do ...	do	112	Pump	do	10	18·5	8·5
do 21	do ...	do	113	do	do	11	11 5	5·0
do 21	do ...	do	114	River water.....	New Glasgow....	12	3·5	2·0
do 21	do ...	do	115	Pipe do	do ...	13	6·7	2·5
do 21	do ...	do	116	Well do	do ...	14	26·0	11·
do 21	do ...	do	117	Tap.....	do ...	15	4·7	1·5
do 21	do ...	do	118	River	do ...	16	4·0	1·8
do 21	do ...	do	119	Lepper Brook	Truro.....	17	4·5	1·5
do 21	do ...	do	120	Well.	do	18	12·0	4·3
do 21	do ...	do	121	do	do	19	13 7	6·0
do 21	do ...	do	122	Reservoir	Windsor.....	20	3·5	1·5
do 21	do ..	do	123	Tap	do	21	3·7	2·0
do 21	do ...	do	124	Well.	do	22	66·	19·
do 21	do ...	do	125	do	do	23	60·	23·3
do 21	do ...	do	126	Spruce Hill Lake.	Halifax sup.....	24	1·7	1 5
do 21	do ...	do	127	Upper Charles Lake	do	25	1·5	1·3
May 3	W. F. Best.....	New Brunswick..	460	Reservoir.....	St. John	24	3·15	1·40
do 3	do ...	do ...	461	Lake Latimer	do	25	3·40	1 27
do 3	do ...	do ...	462	Spruce Lake.....	do	26	3·75	2·10
do 3	do ...	do ...	463	Tap.....	do	27	3·58	1·26
do 3	do	do ...	464	Tap	do	28	3·25	1·27
do 3	do	do ...	465	do	Fredericton..	29	2·16	1·01
do 3	do	do ...	466	River	do	30	3·48	1·86
do 3	do	do ...	467	Well	do	31	1·46	·861
do 3	do	do ...	468	Tap	do	32	2·14	·950

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DRUGS—Tabulated Statement, &c.—*Continued.*

per 100,000 of Water.							
Nitrogen			Chlorine in Chlorides.	Oxygen consumed by organic matter at 80° Fahr.		Microscopical Examination.	Observations and Remarks.
As Albuminoid Ammonia.	As Free and Saline Ammonia.	As Nitrates and Nitrites.		15 Minutes.	4 Hours.		
.....	·0062	.....	0·77	.....	.....	.....	Of fair quality.
0089	·0086	.....	0·7	.....	.....	.....	do albuminoid ammonia high.
·0095	·0033	.....	0·63	.....	.....	.....	do do
·0100	·0030	.....	0·56	.....	.....	.....	do do
·0097	·0044	.....	0 63	.....	.....	.....	do do
·0093	·0042	.....	1·40	.....	.....	.....	do do
·0097	·0025	.....	0·70	.....	.....	.....	do do
·0063	·0011	.....	0·84	.....	.....	.....	Good water do
·0030	·0008	.....	0·77	.....	.....	.....	do
·0037	·0006	.....	2·66	.....	.....	.....	do
·0075	·0022	.....	1·47	.....	.....	.....	do
·0089	·0063	.....	0·42	.....	.....	.....	Fair water; albuminoid ammonia high.
·0084	·0024	.....	0 63	.....	.....	.....	do do
·0037	·0013	.....	4·48	.....	.....	.....	Good water.
·0079	·0015	.....	0·56	.....	.....	.....	do
·0070	·0009	.....	0·70	.....	.....	.....	do
·0061	·0011	.....	0·49	.....	.....	.....	do
·0051	·0020	.....	1·12	.....	.....	.....	do
·0037	0011	.....	1·61	.....	.....	.....	do
·0064	·0048	.....	·42	.....	.....	.....	do
·0067	·0030	.....	0 49	.....	.....	.....	do
·0054	·0014	.....	9·52	.....	.....	.....	Good water; but contains a large amount of sulphate of zinc.
·0084	·0011	.....	6·30	.....	.....	.....	Fair water do do
·0131	·0033	.....	1·12	.....	.....	.....	do but albuminoid ammonia high.
·0103	·0025	.....	0·84	0·2 5 min.	.....	.....	do do do
·020	.....	.....	trace...	·006	.....	Slight sediment, consisting of vegetable fibre	Of good quality; fit for domestic use.
·036	.....	.....	do	·008	.....	do	do do
·030	.....	.....	do	·013	.....	Contains a vegetable fibre	do do
·048	.....	.....	do	·009	.....	do	do do
·020	.....	.....	trace.	·004	.....	Contains vegetable fibre	Good water; fit for domestic use.
·020	.....	.....	trace.	·008	.....	Small amount of vegetable matter suspended in water	do do
·275	.....	.....	·48	·425	.....	Vegetable fibre suspended in the water	Fit for domestic use, and not contaminated to any extent by sewage matter.
·480	.....	.....	2·15	·650	.....	Contains a small amount of organic matter, partly vegetable...	Not fit for domestic use.
·025	.....	.....	trace.	·005	.....	Contains a small amount of vegetable matter...	Fit for domestic use.

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APPENDIX C—INSPECTION OF FOOD AND WATER—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Source.	—	No. of Sample.	In parts Total Solids. Dry at 100° C.	In parts Total Solids. Loss on ignition.
1888.								
May 3	W. F. Best.....	New Brunswick.	469	Well	Sussex	33	1·24	·455
do 3	do	do ...	470	do	do	34	5·34	3·270
do 3	do	do ...	471	do	Old Sussex	35	3·244	1·231
do 3	do	do ...	472	Reservoir	Moncton	36	2·455	1·885
do 3	do	do ...	473	Tap	do	37	2·815	1 800
do 3	do	do ...	474	Well	do	38	4·810	2·452
do 3	do	do ...	475	Tap	do	39	2 650	1·200
do 3	do	do ...	476	Well	Chatham	40	2·864	1·271
do 3	do	do ...	477	Spring	do	41	3·742	1·810
do 3	do	do ...	478	do	do	42	2·400	1·280
do 3	do	do ...	479	do	do	43	1·755	·621
Mar. 23	M. Fiset.....	Quebec.....	951	Lake St. Charles.	Quebec.....	121	4·2	·100
do 23	do	do	952	Aqueduct	do	122	6·6	·2
do 23	do	do	953	River	do	123	6 6	·3
do 23	do	do	954	do	do	124	13·	2·8
do 23	do	do	955	do	do	125	5 70	·2
do 23	do	do	956	Tap	do	126	5 0	·8
do 23	do	do	957	do	do	127	5·2	·8
do 23	do	do	958	River	do	128	12·6	1·2
do 23	do	do	959	Tap	do	129	4 6	·6
do 23	do	do	960	Well	do	130	63·2	38·8
do 23	do	do	961	River	do	131	14·2	4·6
do 23	do	do	962	St. Charles River.	do	132	6·8	0·4
do 23	do	do	963	Well	do	133	14·1	1·8
do 23	do	do	964	River	do	134	14·8	1·8

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DRUGS – Tabulated Statement, &c.—*Continued.*

Continued.

per 100,000 of Water.							
Nitrogen.			Chlorine in Chlorides.	Oxygen Consumed by Organic Matter at 80° Fahr.		Microscopical Examination.	Observations and Remarks.
As Albuminoid Ammonia	As Free and Saline Ammonia.	As Nitrates and Nitrates		15 Minutes.	4 Hours.		
·055	.....	.....	·085	·091	.....	Small amount of vegetable matter..	Of fair quality.
·044	.....	.....	·746	·010	.....	Small amount of vegetable matter suspended..	Not absolutely safe for domestic use; doubtful.
·046	.....	.....	·008	·394	.....	Small amount of vegetable matter suspended	Of fair quality; doubtful.
·006	.....	.....	·015	·581	.....	Considerable amount of sediment, mostly vegetable	Fit for domestic use.
·008	.....	.....	0·017	·475	.....	Contains vegetable fibre	do do
·024	.....	.....	3·75	·145	.....	Small amount of organic matter, chiefly vegetable.....	Not perfectly safe for domestic use.
·007	.....	.....	·009	·352	.....	Contains vegetable matter	Fit for domestic use.
·037	.....	.....	1·570	·460	.....	Contains vegetable and inorganic matter	Fit for domestic use, although it is evident that surface water and impurities can enter.
·065	.....	.....	·214	·250	.....	A very small amount of vegetable matter suspended in the water	Fit for domestic consumption.
·022	.....	.....	trace.	·009	.....	Some vegetable fibre in suspension	Fit for domestic purposes.
·075	.....	.....	·260	·445	.....	Remains of vegetable substances in suspension	do do
·001	·001	....	·040	·008	.....	....	Good.
·002	·001	.....	·050	·008	.....	No deposit.....	do
·003	·002	.....	·070	·010	.....	do	do
·004	·003	.....	080	·016	.....	do	Good and wholesome drinking water, but much more mineral and organic matter than former three.
·009	·004	.....	·060	·009	.....	do	Good.
.....	.....	.....	·080	·008	.....	do	Fairly potable.
.....	·07	.....	·06	·12	....	do	Soft and wholesome.
.....	.. ..	.....	·6	·12	.....	do	Potable.
.....	....	.....	·40	·1	.....	do	Soft and wholesome.
.....	·017	.....	trace..	·36	....	Deposite chiefly organic	Not potable; unfit for use as a domestic supply.
·004	·005	.....	.....	·015	.....	No deposit.....	Potable water; no sewage.
·002	·001	.....	....	·016	.....	No sewage	Very pure soft water.
·002	·001	.....	....	·02	.....	No deposit.....	Fair water; potable.
·002	·001	.....	....	·02	.....	do	Fair river water; potable.

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APPENDIX C - INSPECTION OF FOOD AND WATER—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Source.	—	No. of Sample.	In parts — Total Solids. Dry at 100° C.	Loss on Ignition.
1888.								
Mar. 23	M. Fiset	Quebec	965	Tap	Lévis	135	18 8	2·8
do 23	do	do	966	Tank	do	136	33·6	1·9
do 23	do	do	967	Well	do	137	18 6	·64
do 23	do	do	968	do	do	138	44·2	11·
do 23	do	do	969	do	do	139	28·8	1·3
do 23	do	do	970	Tap	do	140	17·2	1·
Feb. 25	J. B. Edwards.	Montreal	1319	Wheelhouse and waterworks	Montreal	101	9·	1·1
do 25	do	do	1320	St. Cunegondet waterworks	do	102	12·6	1·5
do 25	do	do	1321	Entrance of cut to wheelhouse	do	103	10·6	1·2
do 25	do	do	1322	Tap in Inland Revenue Office	do	104	13·30	2·
do 25	do	do	1323	Well, 56 Champlain Street	do	105	30·00	10·
do 25	do	do	1324	Well, 122 Dufferin Street	do	106	110·	18·
do 25	do	do	1325	Tap in Fire Station No. 12	do	107	15·	15·
do 25	do	do	1326	Tap in Fire Station No. 11.	do	108	11·	1·1
do 25	do	do	1327	St. Lawrence Riv'r	do	109	17·	5·75
do 25	do	do	1328	do	do	110	15·	3 1
do 25	do	do	1331	Richelieu River	St. John, P.Q.	141	8 6	3·3
do 25	do	do	1332	do	do	142	7·4	2·2
do 25	do	do	1333	Tap at Barracks	do	143	9 4	3 2
do 25	do	do	1334	Tap	do	144	7·	1·0
do 25	do	do	1335	do School House.	do	145	7·2	1·0

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DRUGS—Tabulated Statement, &c.—*Continued.*

Continued.

per 100,000 of Water.				Oxygen consumed by organic matter at 80° Fahr.			
Nitrogen			Chlorine in Chlorides.			Microscopical Examination.	Observations and Remarks.
As Albuminoid Ammonia	As Free and Saline Ammonia	As Nitrates and Nitrites.		15 Minutes	4 Hours.		
·02	·01	.....	traces	·04	.....	Organic matter in excess	Doubtful.
·02	·04	.....	·12	01	.....	No deposit	Wholesome water; hard quality.
·02	·04	.....	·12	·10	.....	do	Potable water.
·06	·03	.....	·40	·15	.....	do	Unfit for use; dangerous. Organic matter in excess.
·02	·04	.....	·12	·15	.....	.....	Doubtful; nitrate and chloride in excess.
·004	·004	.....	·12	·02	.....	No deposit	Doubtful; the last four samples should be filtered in order to render the water fit for use.
·005	.....	.....	·062	·5	.....	No deposit	Remarkably pure.
·005	.....	.....	1·076	·48	.....	do	Good and wholesome.
·005	.....	.....	·167	56	.....	do	Pure and wholesome.
·15	09	.....	1·19	·40	.....	Deposit light with sand and filament of conferra and diatoms	Contaminated by collection of vegetable and mineral matter in pipes, but not sufficient to injure health.
·17	·25	traces	2·61	.....	.....	.....	Residue in deposit, of decomposed wood and clay.
·27	·25	.....	27·70	·70	.....	A mere trace of deposit	A dangerous water, containing free and combined ammonia and chlorides in excess, indicating sewage.
·025	·02	.....	1 67	·20	.....	No deposit	A fair potable water, but to a small extent impregnated with the dirt accumulating in the pipes; all removeable by filtrate.
.....	.....	.....	·670	0·4	.....	.....	Excellent potable water.
·028	·018	.....	·969	·52	.....	Slight fungoid deposit	Slightly affected by sewage.
·030	·022	.....	86	.....	.....	No deposit	Fairly potable at present season of year; doubtful in summer.
·006	.....	.....	·06	·12	.....	do	Very pure soft water.
.....	.....	.....	·1	·02	.....	do	Pure soft water.
·001	.....	.....	·16	·016	.....	Slight deposits	Potable water free from sewage contamination.
·003	.....	.....	·06	·016	.....	do	A soft potable water, free from sewage.
.....	·002	.....	·07	·005	.....	do	A soft potable water, free from sewage.

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APPENDIX C—INSPECTION OF FOOD AND WATER—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Source.	—	No. of Sample.	In parts Total Solids. Dry at 100° C.	In parts Total Solids. Loss on ignition.
1888.								
Feb. 25	J. B. Edwards.	Montreal.	1336	Tap	Outremont	146	24·	5·5
do 25	do ...	do	1337	Well	do	147	38·	2·
do 25	do ...	do	1338	Well near School House	do	148	33·6	3·8
do 25	do ...	do	1339	River	Joliette	111	17·	11·
do 25	do ...	do	1340	From Pump House	do	112	15·5	9·3
do 25	do ...	do	1341	St. Charles School	do	113	11·2	1·6
do 25	do ...	do	1342	St. Viateur School	do	114	10·5	1·0
do 25	do ...	do	1343	Well do ...	do	115	30·	·7
do 25	do ...	do	1344	Pump House.	Three Rivers	116	6·	·36
do 25	do ...	do	1345	Tap	do	117	9·3	·66
do 25	do ...	do	1346	do	do	118	7·6	·46
do 25	do ...	do	1347	St. Lawrence Riv'r at outlet of main sewer	do	119	22·	2·6
do 25	do ...	do	1348	St Lawrence Riv'r below sewager outlet	do	120	10·	·40
April 10	F. X. Valade...	Kingston	1885	Ottawa River	Ottawa	1	5·6	2·7

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DRUGS—Tabulated Statement, &c.—*Continued.*

Continued.

per 100,000 of Water.							
Nitrogen.			Chlorine in Chlorides.	Oxygen Consumed by Organic Matter at 80° Fahr.		Microscopical Examination.	Observations and Remarks.
As Albuminoid Ammonia.	As Free and Saline Ammonia.	As Nitrates and Nitrates.		15 Minutes.	4 Hours.		
.....	.....	traces	·08	·06	.....	Slight deposits	Of doubtful quality, containing excess of organic matter and nitrates from surface drainage, which is probably a variable quantity.
·08	·04	do	·16	·16	.....	Deposit, large sand residue and floating organic fungoid growth	Dangerous water; unfit for human consumption.
·01	.....	do	·10	·016	.....	Deposit of clay, sand and some organic filaments	Unwholesome, containing surface drainage.
·006	·008	.....	·13	.....	.....	No deposit or microbes	Contaminated with excess of organic matter and probably with a trace of sewage.
·06	·08	.....	·04	·066	.....	do do ...	A fairly potable and soft river water, containing an excess of organic matter.
·14	·02	.....	·07	·06	.....	do do ...	A fairly potable water.
·024	·006	.....	·05	·02	.....	do do ...	A fairly potable water with variable conditions of purity.
·014	0·06	.....	2·80	·078	.....	Large organic and inorganic deposits.	A dangerous water, containing surface drainage, an arable character; liable to be injurious to health in the summer or autumn season.
·002	·004	.....	·04	·04	.....	No deposit or microbes	A soft and wholesome water.
·002	·002	.....	·04	·04	.....	do do ...	A potable water, free from sewage.
·002	·002	.....	·04	·03	.....	do do ...	A soft and wholesome water, free from sewage.
·004	·002	traces	·6	·40	.....	A heavy deposit of organic and inorganic; no microbes	A river water, probably contaminated with sewage to a variable extent and might be injurious to health.
·002	·004	.....	·06	.....	.....	No deposit or microbes	Potable in present condition, but liable to vary in summer season; not injurious in winter season.
·013	0·0034	.....	·033	.....	.....	.....	Fairly clear; pale amber color; no appreciable odour at 40° C.; taste good; very good so far as the analysis is carried.

APPENDIX C—INSPECTION OF FOOD AND WATER—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Source.	—	No. of Sample.	In parts — Total Solids. Dry at 100° C.	In parts — Total Solids. Loss on Ignition.
1888.								
April 10	F. X. Valade.	Kingston	1886	Ottawa River.....	Ottawa.....	2	6·	2·6
do 10	do ...	do	1887	do	do	3	5 5	2·4
do 10	do ...	do	1888	do	do	4	17·4	7·
do 10	do ...	do	1889	Well water.	Perth.....	44	109·9	32·7
do 10	do ...	do	1890	do	do	45	111·2	42·4
do 10	do ...	do	1891	do	do	46	53·	22·6
do 10	do ...	do	1892	do	do	47	108 2	60·
do 10	do ...	do	1893	St. Lawrence River	Brockville	48	13·4	5·4
de 10	do ...	do	1894	do ...	do	49	13·2	5·6
do 10	do ...	do	1895	do ...	do	50	13·6	5·0
do 10	do ...	do	1896	Well	do	51	100·	42·4
do 10	do ...	do	1897	Lake Ontario.....	Kingston..	52	12·8	5·
do 10	do ...	do	1898	Reservoir...	do	53	13·	4·8

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DRUGS—Tabulated Statement, &c.—*Continued.*

Continued.

per 100,000 of Water.							
Nitrogen.			Chlorine in Chlorides.	Oxygen consumed by organic matter at 80° Fahr.		Microscopical Examination.	Observations and Remarks.
As Albuminoid Ammonia.	As Free and Saline Ammonia.	As Nitrates and Nitrates.		15 Minutes.	4 Hours.		
·015	·003	.....	·033	.....	.....	.....	Fairly clear; yellow color; good taste; no particular smell at 40° C.; very good so far as the analysis is carried.
·012	·004	.....	·033	.....	.....	.....	Very clear; yellow color; good taste; no odour at 40° C.; very good so far as the analysis is carried.
·012	·003	.....	·194	.....	.....	.....	Turbid; very light amber color; peaty odour at 40° C.; taste slightly muddy; fair if filtered.
·018	·320	.....	15·012	.....	.....	.....	During ignition chlorine gas and nitrous fumes evolved, but the residue darkens but very slightly; water clear; very light greenish color; no odour at 40° C.; unfit for domestic and drinking purposes.
·012	·0048	.....	16 012	.....	.....	.....	Clear; very light greenish color; no odour at 40° C; during ignition chlorine gas and nitrous fumes evolved, but the residue darkens but very slightly; unfit for domestic and drinking purposes.
·0138	·005	.....	3 836	.....	.....	.....	Clear; greenish color; residue darkens very slightly on ignition; good well water, but unfit for drinking purposes.
·0216	·0052	.....	11·733	.....	.....	.....	Yellowish green color; little matter in suspension; chlorine gas and red fumes evolved whilst residue darkens very little; unfit for domestic and drinking purposes.
·003	·004	.....	·486	.....	.....	.....	Almost colorless; no odour at 40° C.; clear and of good taste; blackens slightly during ignition; good.
traces.	traces.	.....	·334	.....	.....	.....	Almost colorless; no odour at 40° C.; clear and of good taste; blackens slightly during ignition; good.
traces.	·002	.....	·347	.....	.....	.....	Clear; good taste; no smell at 40° C.; matters in suspension; blackens slightly during ignition; good.
traces.	·020	.....	6·116	.....	.....	.....	Clear; light green color; no smell at 40° C.; residue blackens slightly during ignition; nitrous fumes evolved; rather bad water.
·0132	·004	.....	·306	.....	.....	.....	Very little matter in suspension; slightly greenish color; good taste; residue blackens much on ignition; has a peaty smell; fair.
·0138	·0048	.....	·347	.....	.....	.....	Very little matter in suspension; slightly greenish color; good taste; residue blackens much on ignition; has a peaty smell; fair.

APPENDIX C—INSPECTION OF FOOD AND WATER—

Date.	Name of Analyst.	District.	No of Analyst's Report.	Source.	—	No. of Sample.	In parts Total Solids. Dry at 100° C.	In parts Total Solids. Loss on Ignition.
1888.								
Apr. 10	F. X. Valade	Kingston	1899	Well	Kingston	54	73 6	25·2
do 10	do	do	1900	Tap.	do	55	12·4	5·
do 10	do	do	1901	Bay Quinté	Belleville	56	15·	6·4
do 10	do	do	1902	Tap	do	57	15·	6·4
do 10	do	do	1903	Well	do	58	40·8	12·2
do 10	do	do	1904	do	do	59	62·6	19·
do 30	W. H. Ellis	Toronto	360	Tap.	Guelph	166	14·	3 5
do 30	do	do	361	do	do	167	15·75	3·5
do 30	do	do	362	Well	do	168	41·16	10 5
do 30	do	do	363	do	do	169	53 9	21·
do 30	do	do	2280	Otanabee River	Peterboro'	6	7·70	3·50
do 30	do	do	81	Well	do	61	60·2	9·8
do 30	do	do	82	Tap.	do	62	8·26	3·3
do 30	do	do	83	Well	do	63	31·85	10·85
do 30	do	do	84	Lake	Hamilton	149	10·08	3·36
do 30	do	do	85	Tap.	do	150	11·20	2·8
do 30	do	do	86	do	do	151	12 04	·7
do 30	do	do	87	do	do	152	11 2	1·4
do 30	do	do	88	Well	do	153	10 92	2·10
do 30	do	do	89	Reservoir	London	154	20·3	3·15
do 30	do	do	90	Tap.	do	155	19·95	4 2
do 30	do	do	91	do	do	156	17 5	2·8
do 30	do	do	92	do	do	157	19·25	2·8
do 30	do	do	93	do	Stratford	158	14·7	4·2
do 30	do	do	94	Well	do	159	19 6	3·5
do 30	do	do	95	do	do	160	29 4	4·9
do 30	do	do	96	Tap.	do	161	15 4	3 5
do 30	do	do	97	Well	Berlin	162	75 6	19·25
do 30	do	do	98	do	do	163	56 7	16·10
do 30	do	do	99	do	do	164	45·5	9·8
do 30	do	do	2300	do	do	165	28·0	6·3

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DRUGS—Tabulated Statement, &c.—*Continued.*

Continued.

per 100,000 of Water.							
Nitrogen.			Chlorine in Chlorides.	Oxygen Consumed by Organic Matter at 80° Fahr.		Microscopical Examination.	Observations and Remarks.
As Albuminoid Ammonia.	As Free and Saline Ammonia.	As Nitrates and Nitrates.		15 Minutes.	4 Hours.		
·010	·015	.....	6 561	.....	.....	.....	During ignition the residue blackens a little, and chlorine gas is evolved; a little matter in suspension; light greenish color; rather bad.
·0126	·004	.....	0·312	.....	.....	.....	Clear greenish color; peaty smell on ignition of residue; good taste; no appreciable odor at 40° C.; good.
·015	·008	.....	·286	.....	.....	.....	Very little matter in suspension; yellowish color, which deepens by boiling; slight peaty smell at 40° C.; taste not very good; residue on ignition darkens, giving the smell of burnt peat; not very commendable.
·013	·0072	.....	·278	.....	.....	.....	do do
·015	·006	.....	2·947	.....	.....	.....	Almost clear; greenish color; residue darkens on ignition; a good sample of well water, but unfit for drinking purposes.
·012	·016	.....	7 673	.....	.....	.....	Yellowish green color; turbid flocculent matter in suspension; residue darkens and gives a peaty smell on ignition; a bad water.
·0014	trace.	·115	·175	·085	·0162	Satisfactory	A water of medium purity.
·001	trace.	·115	·23	040	·0092	do	do do
·025	147	·166	3·04	·151	·3486	Much sediment	An impure water.
·005	·004	·588	4·9	·038	·0595	do	Of medium purity.
·015	·098	·010	·040	·096	·231	Infusoria diatoms and vegetable débris.....	An impure water.
·011	·037	1·779	5·25	·061	·177	do. ...	do
·012	·0028	·036	·035	·084	·218	do ...	do
·001	·017	·008	4·9	·005	·033	Satisfactory	A water of great purity.
·0008	·009	·027	·35	·028	·067	do	A water of medium purity.
·028	·001	·022	·35	·009	·045	do	do great purity.
·004	·002	·021	·35	·009	·019	do	do do
·001	trace.	023	·35	014	·015	do	do do
·0001	do	0·17	·35	·046	·028	do	do do
traces.	traces.	0·92	·105	·004	·002	do	do do
·0014	do	0 68	·105	·001	·014	do	do do
·0014	do	0·68	·140	·017	·029	do	do do
·0014	do	0 63	·105	·001	·0007	do	do do
·008	do	0·24	·084	·128	·238	do	do doubtful purity.
·001	do	·617	·49	·0147	·048	do	do great purity.
·001	do	·576	1 05	·0039	0174	do	do do
·008	·002	·113	·084	·1075	·220	do	do doubtful purity.
·015	·036	·104	7 07	·0497	·137	Infusoria diatoms, &c	An impure water.
·005	trace.	·124	8 33	·0151	·049	Satisfactory	A water of doubtful purity.
·005	do	·1 0	5·74	·028	·068	do	do do
·001	do	·178	·63	·018	·049	Much sediment	do great purity.

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APPENDIX C—INSPECTION OF FOOD AND WATER—

Date.	Name of Analyst.	District.	No. of Analyst's Report.	Source.	—	No. of Sample.	Total Solids. Dry at 100° C.	Total Solids. Loss.
1888.								
June 13	J. E. Wright...	Manitoba.....	2865	City well.....	Brandon	5788	42 8	16·5
do 13	do ...	do	2866	Well, Primrose St.	do	5789	33·	11·
do 13	do ...	do	2867	Well opposite Public School	do	5790	51·	16·
do 13	do ...	do	2868	Well, Grand View Hotel.....	do	5791	147·	36·
do 13	do ...	do	2869	Well	Portage la Prairie	5792	41·	13·5
do 13	do ...	do	2870	do	do ...	5793	113·5	70·
do 13	do ...	do	2871	do	do ...	5794	382·	104·
do 13	do ...	.....	2872	do	do ...	5795	50·5	16·5

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DRUGS—Tabulated Statement, &c.—*Continued.*

Concluded.

Nitrogen.			Chlorine in Chlorides.	Oxygen Consumed by Organic Matter at 80° Fahr.		Microscopical Examination.	Observations and Remarks.
As Albuminoid Ammonia.	As Free and Saline Ammonia.	As Nitrates and Nitrates.		15 Minutes.	4 Hours.		
p. c.	p. c	p. c.	p. c.	p. c.	p. c.		
·026	·024	.....	1·3	.....	.....	Sediment consists of clayish matter; no organic matter or structure recognized	Organically safe and pure, being fit for public consumption.
·024	·026	.....	1·6	.....	.....	No definite structure recognized in structure; had a fungoid like form...	Organically safe.
·022	·017	.....	1·2	.....	.....	Sediment showed to be devoid of regular structure; dark brown appearance under the microscope; color greenish yellow.....	do
·026	·020	.....	4·70	.....	.....	Sediment showed to be of vegetable nature and structure; living organisms were found present, but not abundant.....	Not pure, although the amount of albuminoid ammonia obtained is not excessive. The foreign matter recognized in sample by the microscope would under many conditions be converted into nitrogen.
·056	·019	.....	·65	.....	.....	No living organisms perceived in sediment, which was found to be a yellowish moss without structure.....	Organically pure.
·044	·022	.....	7·28	.....	.....	do ...	Safe, containing much organic matter, but unfit for domestic use on account of excessive hardness.
·020	·019	.....	2·00	.....	.....	No organisms discovered; sediment yellowish moss of a gelatinous nature	Organically pure, but excessive in solids containing too much sulphuric acid (as sulphates) to be fit to drink, and unfit for domestic purposes on account of the great hardness.
·071	·016	.....	·80	.....	.....	Sediment showed to be a gelatinous like moss, with a greenish color; no living organisms discovered	Organically pure.

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APPENDIX D.

LABORATORY OF THE INLAND REVENUE DEPARTMENT, OTTAWA.

LABORATORY OF THE INLAND REVENUE DEPARTMENT,
OTTAWA, 16th February, 1889.

To the Commissioner of Inland Revenue.

SIR,—With reference to the operation of the Fertilizers' Act during the year ending 30th June, 1888, I beg to refer you to Bulletin No. 4, dated 21st May, 1888, which contains the results of the analysis of samples of the various fertilizers sold in the Dominion. This bulletin will, in accordance with your instructions, be re-published as an appendix to the annual report.

It will be observed that some of these fertilisers do not come up to the standard mentioned in Section 11 of the Fertilisers' Act, and as there seems to be some uncertainty as to whether this section applies to uninspected fertilisers, I beg to submit that, in any amendment of the Act which you may undertake, a minimum should be fixed as regards the fertilizing ingredients which uninspected fertilizers should contain.

With regard to the administration of the Adulteration Act during the same year, I have to mention that Bulletins Nos. 2, 3, 5 and 6, which have reference respectively to milk, coffee, domestic waters and cheese, will also appear in the appendix. There is every reason for believing that the publication of these in the early part of 1888 was of public advantage, and had some effect in spreading information as regards the nature of certain adulterations.

This system of publication would seem to be the best attainable, short of the amendment to the Act, recommended by you in your letter to the Minister of 31st March, 1888.

In the months of June and July last an attempt was made by Mr. Awde, License and Food Inspector, Toronto, to carry out the inspection of milk under the provisions of section 6 of the Adulteration Act. Mr. Awde first subjected the samples to preliminary tests, and then forwarded to the public analyst and the Department those which he deemed suspicious. The following table gives the results of the examination of these samples by the undersigned :—

Number.	Specific Gravity.	Water.	Butter fat.	Other Solids.	Total.	Remarks.
		p. c.	p. c.	p. c.	p. c.	
3	1·0327	88·07	2·90	9·03	100	
5	1·0320	88·30	3·25	8·45	100	
9	1·0289	90·06	2·36	7·58	100	Watered.
10	1·0269	90·03	3·10	7·87	100	do
11	1·0320	88·91	2·62	8·47	100	
14	1·0309	89·17	2·07	8·76	100	Partly skimmed.
14	.....	89·14	2·14	8·72	100	
15	1·0321	89·28	2·08	8·64	100	
15	.....	89·29	1·99	8·72	100	do
16	1·0316	89·17	2·34	8·49	100	
16	.....	89·12	2·38	8·50	100	do
21	1·0264	90·00	2·67	7·33	100	
21	.....	89·99	2·69	7·32	100	Watered.
22	1·0334	89·59	1·85	8·56	100	
22	.....	89·58	1·88	8·54	100	Skimmed.
23	1·0324	88·86	2·66	8·48	100	
23	.....	88·87	2·68	8·45	100	Partly skimmed.
24	1·0269	90·43	2·45	7·12	100	
24	.....	90·44	2·48	7·08	100	Watered.

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Inspection of samples of Milk—*Concluded.*

Number.	Specific Gravity.	Water.	Butter fat.	Other Solids.	Total.	Remarks.
		p. c.	p. c.	p. c.	p. c.	
26	1 0296	89·59	2·51	7·90	100	Watered.
26		89·53	2·51	7·96	100	
29	1·0320	89·44	2·15	8·41	100	Partly skimmed.
29		89·50	2·13	8·37	100	
30	1·0312	89·98	2·32	7·70	100	Watered.
30		90·12	2·23	7·65	100	
31	1·0320	88·81	2·63	8·58	100	Partly skimmed.
31		88·91	2·61	8·48	100	
32	1·0333	89 90	2·55	7·55	100	Watered.
32		89 42	2·54	8·04	100	
33	1·0343	90·32	2·11	7·57	100	do
33		90·26	2·03	7·71	100	
42	1·0304	89·32	2·67	8·01	100	do
42		89·31	2·67	8·02	100	
45	1·0294	89·22	3·12	7·66	100	do
45		89·22	3·09	7·69	100	

Mr. Awde informed me that in fourteen of these cases prosecutions were instituted, but only one conviction obtained; most of the defendants swore that they were not parties to the adulteration, and were acquitted by the court under section twenty-three, subsection two, which reads: "Provided that if the person accused "proves to the court before which the case was tried that he did not know of the "article being adulterated, and shows that he could not with reasonable diligence "have obtained that knowledge, he shall be subject only to the liability to forfeiture "under the twenty-first section of the Act."

It appears to me that this failure of justice is worthy of careful attention, and I have to suggest that either this section should be amended or such departmental action taken as would make it easy for such delinquents with "reasonable diligence" to obtain certainty regarding the purity of the article they sell.

I have the honor to be, Sir,

Your obedient servant,

THOMAS MACFARLANE, *Chief Analyst.*

Bulletin No. 2.

Milk.

In order to enable a comparison to be made betwixt samples of genuine milk, such as described in Bulletin No. 1, and whole milk as actually sold in our cities, the Commissioner of Inland Revenue has authorized the publication of the results of analysis of samples obtained from milk vendors during the months of August and September last.

It has also been deemed advisable to insert in the present Bulletin a description of the method adopted by the Department for the preliminary testing of milk, to which reference was made in the Commissioner's report of 23rd December, 1886. The Department proposes hereafter to insist that this testing shall be carried out by its officers in all the Inland Revenue Districts which have been furnished with the necessary instruments. As stated by the Commissioner, "it is not intended that "these preliminary tests should take the place of analysis; the object is simply to "separate the undoubtedly good from suspicious samples, thus permitting the "inspection of a much larger number at less expense for analysis."

It may be remarked that the results given in the following tables, and also those published in Bulletin No. 1, were mostly obtained by the use of the method described by the undersigned in a paper read before the Royal Society of Canada, on the 27th May last, under the title "Remarks on the use of asbestos in milk analysis."

Results of Analysis of Samples of Milk sold as Whole Milk.

Date of Collection.	No. of Sample.	Name of Vendor.	Residence.	Analysis.			Specific Gravity, 15° C.	Total Solids.	Remarks.
				Water.	Butter Fat.	Other Solids.			
1887.		HALIFAX, N.S.		p. c.	p. c.	p. c.		p. c.	
Sept. 20...	5376	Thomas Whalen	232 Lower Water St	88·40	2·85	8·75	1·0335	11·60	Partly skimmed.
do 20...	5377	William Debarry	208 do	88·13	2·71	9·16	1·0337	11·87	do
do 20...	5378	John McInnes	200 do	87 63	3·90	8·47	1·0311	12·37	
do 20...	5379	Anne Regan	119 Upper Water St	90·59	3 31	6·10	1·0226	9·41	Watered.
do 20...	5380	Mrs. Eliza Neville	226 do	88 62	3·96	7·42	1·0274	11·38	do
do 20...	5381	Mrs Mary Burns	220 do	87·94	3·78	8·28	1·0311	12·06	
do 26...	5382	Mary Tobin	50 Grafton St	87·57	4·23	8·20	1·0285	12·43	
do 26...	5383	M. J. Maher	70 do	88·48	4·09	7·43	1·0251	11·52	do
do 26...	5384	Wm. Forsyth	36 do	86·58	4·26	9·16	1·0318	13·43	
do 27...	5385	Thomas Sullivan	194 Lower Water St	88·44	2·97	8·59	1·0309	11·56	Partly skimmed.
do 27...	5386	Patrick Shea	188 do	88·02	3·55	8·43	1·0299	11 98	
do 27...	5387	Charles Craig	6 Slater St	88·25	2 58	9 17	1·0328	11·75	do
		PICTOU, N.S.							
Sept. 27...	3322	N. K. Dickson	Old Road	87·24	3·89	8·87	1·0312	12·76	
do 27...	3323	Wm. McGregor	Haliburton Stream	86·26	4·73	9·01	1·0312	13·74	
do 27...	3324	John Simpson	Melroseville, Beeches	85·44	6·10	8·46	1·0278	14·56	Partly cream.
do 27...	3325	Thomas Currie	St. Andrews St	87·33	3·66	9 01	1·0331	12 67	
do 27...	3326	G. W. Campbell	Willow Grove, Beeches	87·44	3·57	8·99	1·0317	12·56	
do 27...	3327	Mrs. D. Mitchell	Coleraine St	87·33	3·45	9·22	1·0327	12·67	
		ST. JOHN, N.B.							
Sept. 5...	6169	Mrs. Margaret Leck	Sandy Point Road, Portland	86·52	4·63	8·85	1·0314	13·48	
do 19...	6171	James McAndrews	10 Brussel St	87·23	4·73	8 04	1·0320	12·77	
do 19...	6172	J. D. McAvity	19 do	86·79	4·34	8·87	1·0398	13·21	
do 20...	6174	Mrs. J. E. McCormick	18 Queen St	89 24	3 92	6·84	1·0248	10·76	Watered.
do 20...	6175	Robert Ritchie	259 German St	89 08	3·50	7·42	1·0268	10·92	do
do 20...	6176	John Doody	44 St James St	89·15	3·39	7 46	1·0268	10·85	do
do 22...	6177	Mary Collins	236 Charlotte St	87·31	4·08	8·61	1·0314	12·69	
do 22...	6178	Mrs. John Moran	78 Britain St	86 94	4·28	8·78	1·0322	13·06	
do 22...	6179	John Condon	205 Sydney St	89·84	2·76	7·40	1·0276	10·16	Watered.

			Sherbrooke, P.Q.							
Sept.	20...	3236	John S. Armstrong	East Sherbrooke	86·38	4·70	8·93	1·0318	13·62	
do	20...	3237	H. Armitage & Son	Township of Ascot	87·90	3·40	8·70	1·0318	12·10	
do	22.	3238	James G. Mallory	Lennoxville	84·00	7·54	8·46	1·0292	16·00	Partly cream.
do	24...	3239	Allan Lothrop	Township of Ascot	86·41	4·48	9·13	1·0324	13·59	
do	27...	3240	Calixte Boudreau	East Sherbrooke	86·60	4·87	8·53	1·0309	13·40	
do	27...	3241	Edmond Green	do	86·92	4·11	8·97	1·0320	13·08	
			Ottawa, Ont.							
Oct.	1...	6837	R. Honeywell	Township of Nepean	87·13	4·23	8·64	1·0323	12·87	
do	1...	6838	Mrs. Casey	30 O'Connor St.	88·28	3·47	8·26	1·0296	11·72	Below average.
do	1...	6839	W. H. Adams	200 Sparks St	87·69	3·44	8·87	1·0297	12·31	
do	1...	6840	H. J. Bayley	330 Sparks St.	86·66	4·86	8·48	1·0296	13·34	
do	1...	6841	Benj. Rothwell	Township of Gloucester	86·29	5·10	8·61	1·0296	13·71	
do	1...	6842	James Caldwell	Township of Nepean	86·96	4·14	8·90	1·0317	13·04	
			Kingston, Ont.							
Aug.	11...	2924	H. & G. Rees	Township of Kingston, Front Road	88·89	2·77	8·34	1·0325	11·11	Below average.
do	11...	2925	H. & R. Rees	Lots 20 and 21, Concession 3, Township of Kingston	88·89	3·29	7·82	1·0294	11·11	do
do	11...	2926	Henry Wilder	Lot 2, Concession 2, Township of Kingston	87·25	4·22	8·53	1·0320	12·75	
do	11...	2927	J. P. H. Ferris	Pine Grove Dairy, Bath Road, Township of Kingston	89·83	2·65	7·52	1·0289	10·17	Below average.
do	11...	2928	Wm. Pickering	306 Earl St., Kingston	87·74	3·98	8·28	1·0312	12·26	
do	11...	2929	George Wilder	33 do do	89·68	2·00	8·32	1·0327	10·32	Partly skimmed.
			Quebec, P.Q.							
Aug.	23...	6506	François Gilbert	St. John's Suburb	86·66	4·64	8·70	1·0332	13·34	
do	23...	6507	Madame J. Genest	Finlay Market	88·78	3·91	7·31	1·0274	11·22	Watered.
do	23...	6508	J. Guay	do	90·28	.....	.....	1·0256	9·72	do
do	23...	6509	Jean Vézina	St. Joseph, Lévis	86·29	5·45	8·26	1·0306	13·71	Partly cream.
do	23...	6510	Joseph Bégin	do	87·10	4·40	8·50	1·0317	12·90	
do	26...	6511	Elisée Parént	St. Sauveur	87·04	4·30	8·66	.....	12·96	
do	26...	6512	Euclisse Lebel	St. Ambroise	88·20	3·36	8·44	.....	11·80	Below average.
do	26...	6513	Jacques Pepin	do Lorette	87·80	3·95	8·25	.....	12·20	
do	26...	6514	Joseph Pageau	do do	86·57	5·16	8·27	.....	13·43	
do	26...	6515	Elzéar Parent	St. Sauveur	87·78	3·28	8·94	.....	12·22	
do	29...	6516	J.-Bte Demers	Finlay Market	86·95	4·41	8·64	1·0324	13·05	

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Results of analysis of samples of MILK sold as whole milk.

Date of Collection.	No. of sample.	Name of Vendor.	Residence.	Analysis.			Specific Gravity, 15° C.	Total Solids.	Remarks.
				Water.	Butter Fat.	Other Solids.			
1887.		QUEBEC, P.Q.—*Con.*		p. c.	p. c.	p. c.		p. c.	
do 29...	6517	Chrysostôme Carisse	St Roch	88·26	3·34	8·40	1·0320	11·74	Skimmed.
do 29...	6518	François Leforme	St. Sauveur	89·19	2·90	7·91	1·0306	10·81	do
do 29...	6519	Maral Poiré	St. Joseph de Lévis.	89·80	2·50	7·70	1·0338	10·20	do
do 29...	6520	Jean Beaumont	Notre Dame St, Lower Town	86·67	4·90	8·43	1·0308	13·33	
do 29...	6521	François Faucher	Rue D'Aiguillon	87·50	4·04	8·46	1·0326	12·50	
do 31...	6522	Onésime Dorval	St. Oliver St	86·96	4·22	8·82	1·0324	13·04	
do 31...	6523	François Jobin	Richelieu St	87·63	3·84	8·53	1·0321	12·37	
		MONTREAL, P.Q.							
Aug. 15...	4983	John Haggarty	Côte St. Louis	86·56	4·91	8·52		13·44	
do 15...	4984	Moses Trépanier	St. Laurent	87·61	4·10	8·29		12·39	
do 16...	4987	F. X. Bourdon	90 St. Lawrence St	88·64	3·11	8·25	1·0314	11·36	Below average.
do 16...	4988	Thomas O'Brien	Côte St. Louis	88·11	3·64	8·25	1·0314	11·89	
do 17...	4989	Evans Bros. & Trenholme	5 St. Antoine St	86·25	5·56	8·19	1·0304	13·75	Partly cream.
do 17...	4990	A. & G Evans	No. 1 Little St. Antoine St.	84·31	7·92	7·77	1·0269	15·69	do
do 18...	4991	Andrew Walker	Côteau St. Louis	87·44	4·01	8·55	1·0325	12·56	
do 18...	4992	Craik & Boa	Sault aux Recollets	88·7	2·90	8·34	1·0333	11·24	Below average.
do 18...	4993	Henry Lambert	Côteau St. Louis	87·73	4·17	8·10	1·0304	12·27	
do 18...	4998	A. & G Evans	No. 1 St Antoine St	87·86	3·80	8·34		12·14	
do 22...	4999	Edward Roy	Mount Royal Avenue	90·00	3·26	6·74	1·0260	10·00	Watered.
Sep. 17...	7211	Guy Bros	Taken at Richelieu Hotel	88·37	4·41	7·22	1·0268	11·63	do
do 19...	7212	Robert Craik	do Windsor Hotel	83·60	8·21	8·19	1·0230	16·40	Partly cream.
do 19...	7214	Manus Haggarty	do New York Hotel	88·68	3·78	9·56	1·0306	13·34	
do 21...	7215	W. G. Smith	do Freeman's, 158 St. James St	86·90	3·95	9·15	1·0314	13·10	
do 21...	7216	Joseph Cousineau	do Western House, St. Paul St	84·41	7·68	7·91	1·0270	15·59	Partly cream.
do 21...	7217	Robert Moran	do Hope Coffee House	85·24	6·05	8·71	1·0300	14·76	do
do 27...	7218	F. A. Trenholme	do Balmoral Hotel	87·95	3·02	9·03	1·0334	12·05	
do 27...	7219	Joseph Cousineau	do St. James Hotel	86·51	4·65	8·84	1·0320	13·49	

			Belleville, Ont.						
Sept.	21...	2422	J. Moorman	Belleville	87·38	3 88	8·74	1·0312	12·62	
do	21...	2423	J. H. Mathews & Son	Township of Sydney	86·44	4·65	8·91	1·0314	13 56	
do	21...	2424	H. L. McCaughey	do do	86·29	4·89	8·82	1·0312	13·71	
do	21...	2425	John Smith	do Thurlow	87·99	4·16	7·86	1·0372	12·02	
do	21...	2426	Mrs. Jas. Ponton	do Sydney	87·80	3·42	8·78	1·0322	12·20	
do	21...	2427	F. Klingbeil	do do	87·31	4·02	8·67	1·0310	12·69	
			Toronto, Ont.						
Sept.	5...	7016	Toronto Dairy Co.	105½ Queen St. West	88·30	3·31	8·39	1·0318	11·70	Below average.
do	5...	7017	J. Endean	171 Euclid Avenue	86 93	4·37	8·65	1·0318	13·02	
do	5...	7018	E. Shannon	305 Parliament Street	88·72	3·68	7·60	1·0280	11·28	Watered.
do	5...	7019	Clarke Bros.	616 Yonge Street	88·14	3·17	8·69	1·0318	11·86	Below average.
do	5...	7020	J. Gibb	Leslieville	88·07	3·07	8·86	1·0330	11·93	do
			Port Hope, Ont.						
Aug.	30..	2834	James Wilson	Port Hope	87 49	4·02	8·49	1·0302	12·51	
do	30...	2835	Thomas Kerr	do	88·58	3·20	8·23	1·0310	11·42	Below average.
do	30...	2836	Alexander Morrow	do	87·60	3·76	8 64	1·03.0	12·40	
do	30...	2837	Daniel Wrightson	do	87·88	3·06	9·06	1·0332	12·12	
do	30...	2838	George Hill	do	87·13	3·48	9 39	1·0332	12·87	
do	30...	2839	Albert Meadws & G. R. Race.	Hope Township	84·48	7·30	8·22	1 0274	15·52	Partly cream.
			Peterborough, Ont.						
Aug.	25...	3124	W. Stothard	Township of Smith	87·10	4·60	8·30	1·0312	12·90	
do	25...	3125	Thos. Stothard	do do	86·85	4·45	8·70	1·0328	13 15	
do	25...	3126	Thos. Hooper	do Monaghan	88·40	4·24	7·36	1·0278	11·60	
do	25...	3127	Wm. Bell	do do	88·18	4·59	7·23	1·0318	11·82	
do	25...	3128	O. J. Kearney	do Otonabee	87 09	4·41	8 50	1·0318	12·91	
do	25...	3129	Wm. Yelland	Peterborough	90·45	0 95	8·60	1 0328	9·55	Skimmed.

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In the foregoing tables it is to be understood that where no remark is made regarding a sample, it is to be classed as genuine whole milk. In a good many cases it has been found necessary to use the words "partly cream" in the remark column. This has been done because it is believed that these samples must have been taken carelessly, or without previously mixing the milk in a thorough manner in the vessel containing it. The richest genuine milk mentioned in Bulletin No. 1 contained only 5·4 p.c. butterfat, and all samples recorded in this Bulletin containing over that percentage have been regarded as partly cream, and will be neglected in the present comparison.

Of the remaining 95 samples, 64 were judged to be genuine, the percentage of defective samples in the various cities being as follows:—

Halifax	58·3
Pictou	all good.
St. John, N.B.	58·3
Quebec	35·3
Montreal	28.5
Sherbrooke	all good.
Ottawa	16·6
Kingston	60·0
Belleville	all good.
Toronto	80·0
Port Hope	20·0
Peterborough	16·6

If we take the average contents of these market samples in total solids and butterfat (discarding those "partly cream") and compare them with the figures obtained from the standard samples of Bulletin No. 1, we have the following results:—

	Percentage Total Solids.		Percentage Butterfat.	
	Standard	Market.	Standard	Market.
Halifax	12·72	11·78	4·24	3·51
Pictou	.....	12·88	.....	3·86
St. John, N.B.	12·45	11·99	3·91	3·96
Quebec	12·39	12·16	3·54	3·94
Montreal	12·29	12·92	3·82	3·83
Sherbrooke	.....	13·16	.....	4·31
Ottawa	12·93	12·83	4·26	4·20
Kingston	.....	11·30	.....	3·15
Belleville	.....	12·80	.....	4·17
Toronto	12·08	11·96	3·38	3·52
Port Hope	.....	12·26	.....	3·50
Peterborough	.....	11·99	.....	3·87

Enough has probably been done for the present in placing these figures on record. It would be injudicious to generalise from such until it is perfectly certain that in all cases the greatest care has been exercised in sampling the milk properly. At the same time it is safe to remark that several of the milks mentioned in the above tables, as having been tampered with, nevertheless contain an amount of butterfat considerably above the proposed lowest limit of 3½ p. c. This only shows that the practice, indicated in the former Bulletin as possible, of skimming or even watering rich milk may be carried on without reducing the percentage of butterfat below that of other poorer but undoubtedly genuine milks.

From the data given in the above tables, it appears that two-thirds of the samples collected were genuine and of good quality. Had the preliminary testing

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been done, it would probably have been found unnecessary to analyze these. The testing instruments which have been supplied to the I. R Districts are as follows:—

1 Quevenne Lactodensimeter or hydrometer.
1 small Centigrade thermometer.
1 cylindrical glass jar.
1 Feser Lactoscope.
1 pipette of 4 cubic centimeters.

The first three of these are to be used in determining the specific gravity of the milk at 15° Centigrade, in the following manner: After the sample is thoroughly mixed and poured into the glass jar the lactodensimeter is lowered into it carefully and allowed to float. Care is to be taken that the instrument is entirely wetted by the milk and that no air adheres to it. When it has become stationary, the number of degrees on the stem which coincides with the surface of the milk is read off. It will be observed that in consequence of the adhesion of the milk to the glass, it curves up on the stem of the hydrometer about half a degree above the surface. This has to be allowed for and deducted in noting the figures on the stem. The latter after prefixing the figures 1·0, for which there is no room on the stem, gives the exact specific gravity of the milk at a temperature of 15° C. The temperature of the milk is not ascertained by the small Centigrade thermometer. If it is found to be 15° C, the observed specific gravity is correct; but should the temperature of the milk be higher or lower than 15° C., the specific gravity must be corrected by the aid of the following table:—

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Table for Correcting the Density of Whole Milk.

Observed Degrees of Lactodensimeter.	TEMPERATURE OF THE MILK IN DEGREES CENTIGRADE.														
	0.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
14	12·9	12·9	12·9	13·0	13·0	13·1	13·1	13·1	13·2	13·3	13·4	13·5	13·6	13·7	13·8
15	13·9	13 9	13 9	14·0	14·0	14·1	14·1	14·1	14·2	14·3	14·4	14·5	14·6	14·7	14·8
16	14·9	14·9	14 9	15·0	15·0	15·1	15·1	15·1	15·2	15·3	15·4	15·5	15·6	15·7	15·8
17	15·9	15·9	15·9	16·0	16·0	16·1	16·1	16·1	16·2	16·3	16·4	16·5	16·6	16·7	16·8
18	16·9	16·9	16·9	17·0	17·0	17·1	17·1	17 1	17·2	17·3	17·4	17·5	17·6	17·7	17·8
19	17·8	17·8	17 8	17·9	17·9	18·0	18·1	18·1	18 2	18·3	18·4	18·5	18·6	18·7	18·8
20	18·7	18·7	18·7	18·8	18·8	18·9	19 0	19·0	19·1	19 2	19·3	19·4	19·5	19 6	19·8
21	19·6	19·6	19·7	19·7	19 7	19·8	19·9	20·0	20·1	20·2	20·3	20·4	20 5	20·6	20·8
22	20·6	20·6	20 7	20·7	20·7	20·8	20·9	21·0	21·1	21·2	21 3	21·4	21·5	21·6	21·8
23	21·5	21·5	21·6	21·7	21·7	21·8	21·9	22·0	22·1	22·2	22·3	22·4	22 5	22·6	22·8
24	22·4	22·4	22·5	22·6	22·7	22·8	22·9	23·0	23·1	23·2	23·3	23·4	23 5	23 6	23·8
25	23·3	23·3	23·4	23·5	23·6	23·7	23 8	23·9	24·0	24·2	24·2	24·3	24 5	24·6	24 8
26	24·3	24·3	24·4	24·5	24·6	24·7	24·8	24·9	25 0	25·1	25·2	25·3	25·5	25·6	25·8
27	25·2	25·3	25·4	25 5	25·6	25·7	25·8	25·9	26·0	26·1	26 2	26·3	26·5	26·6	26·8
28	26·1	26·2	26 3	26·4	26·5	26 6	26·7	26·8	26·9	27·0	27·1	27·2	27·4	27·6	27·8
29	27 0	27·1	27·2	27·3	27 4	27·5	27·6	27·7	27·8	27·9	28·1	28·2	28·4	28·6	28·8
30	27·9	28·0	28·1	28·2	28·3	28 4	28·5	28·6	28·7	28·8	29·0	29 2	29·4	29·6	29 8
31	28·8	28·9	29·0	29·1	29·2	29·3	29·5	29·6	29·7	29·8	30·0	30 2	30·4	30·6	30·8
32	29 7	29·8	29 9	30·0	30·1	30·3	30·4	30·5	30·6	30·8	31·0	31·2	31·4	31 6	31·8
33	30·6	30·7	30·8	30·9	31 0	31 2	31 3	31·4	31·6	31·8	32·0	32 2	32·4	32·6	32·8
34	31 5	31 6	31·7	31·8	31 9	32·1	32·2	32·3	32·5	32·7	32 9	33·1	33·3	33 5	33·8
35	32·4	32 5	32·6	32·7	32·8	33 0	33·1	33·2	33·4	33·6	33·8	34·0	34·2	34·4	34·7

Observed Degrees of Lactodensimeter.	TEMPERATURE OF THE MILK IN DEGREES CENTIGRADE.															
	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.
14	14	14·1	14·2	14·4	14·6	14·8	15·0	15·2	15·4	15·6	15·8	16·0	16·2	16·4	16·6	16·8
15	15	15·1	15·2	15·4	15·6	15·8	16·0	16·2	16·4	16·6	16·8	17·0	17·2	17 4	17·6	17·8
16	16	16·1	16·3	16·5	16·7	16·9	17·1	17·3	17·5	17·7	17·9	18·1	18·3	18·5	18·7	18·9
17	17	17·1	17·3	17·5	17·7	17 9	18·1	18·3	13·5	18·7	18·9	19·1	19·3	19·5	19·7	20·0
18	18	18·1	18·3	18 5	18·7	18·9	19·1	19·3	19·5	19·7	19·9	20·1	20 3	20·5	20·7	21·0
19	19	19·1	19·3	19·5	19·7	19 9	20·1	20·3	20·5	20·7	20·9	21·1	21·3	21·5	21·7	21·0
20	20	20·1	20·3	20·5	20·7	20·9	21·1	21·3	21·5	21·7	21·9	22·1	22·3	22·5	22·7	23·0
21	21	21·2	21·4	21·6	21·8	22·0	22·2	22·4	22·6	22·8	23·0	23·2	23·4	23·6	23·8	24·1
22	22	22·2	22·4	22·6	22·8	23·0	23·2	23·4	23·6	23·8	24·1	24·3	24·5	24·7	24 9	25·2
23	23	23·2	23·4	23·6	23·8	24·0	24 2	24·4	24·6	24·8	25·1	25·3	25·5	25·7	26·0	26·3
24	24	24·2	24·4	24·6	24·8	25·0	25·2	25·4	25·6	25·8	26 1	26·3	26·5	26·7	27·0	27·3
25	25	25·2	25·4	25·6	25·8	26·0	26·2	26·4	23·6	26·8	27·1	27·3	27·5	27·7	23·0	28·3
26	26	26·2	26·4	26·6	26·9	27·1	27·3	27 5	27·7	27·9	28·2	28·4	28 6	23·9	29·2	29 5
27	27	27·2	27·4	27·6	27·9	28·2	28 4	28 6	23·8	29·9	29·3	29·5	29·7	30·0	30·3	30·6
28	28	28·2	28·4	23·6	28·9	29·2	29·4	29·6	29·9	30·1	30·4	30·6	30·8	31·1	31·4	31·7
29	29	29·2	29·4	29·6	29·9	30·2	30·4	30·6	30·9	31·2	31·5	31·7	31 9	32 2	32·5	32 8
30	30	30·2	30·4	30 6	30·9	31·2	31·4	31·6	31·9	32 2	32·5	32·7	33·0	33·3	33·6	33·9
31	31	31·2	31·4	31·7	32 0	32·3	32·5	32·7	33 0	33·3	33·6	33·8	34·1	34·4	34·7	35·1
32	32	32 2	32·4	32·7	33·0	33·3	33·6	33·8	34·1	34·4	34·7	34·9	35·2	35·5	35·8	36·2
33	33	33·2	33·4	33·7	34·0	34·3	34·6	34·9	35·2	35·5	35·8	36·0	36·3	36·6	36·9	37·3
34	34	34·2	34·4	34 7	35·0	35·3	35 6	35·9	36·2	36·5	36·8	37·1	37·4	37·7	38·0	38·4
35	35	35·2	35·4	35·7	36·0	36·3	36·6	36·9	37·2	37·5	37·8	38·1	38·4	38·7	39·1	39·5

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Thus if the observed density be 30, and the temperature 18° C., the corrected specific gravity at 15° will be 1·0306. The specific gravity of milk from a herd of not less than 4 cows varies from 1·029 to 1·033; and any milk having a specific gravity outside of these limits is to be regarded as doubtful; and, without any further testing, submitted to the public analyst.

The milks which are found to have a specific gravity varying from 1·029 to 1·033 are not on that account to be considered genuine. For instance, abstraction of cream increases the specific gravity; but by subsequent addition of water it can again be brought within the indicated limits. It is, therefore, necessary to test the remaining milks further as to their approximate percentage of butterfat. For this purpose the Feser lactoscope is used. Its indications are founded upon a measurement of the degree of opacity possessed by the milk, which depends to a great extent upon the amount of butter it contains. The sample is again well mixed, and by means of the pipette, 4 c. c. of it are transferred to the lactoscope along with the rinsing of the pipette; water is now added, in small portions at a time and under frequent agitation, until the black lines on the white glass core in the centre of the instrument just become visible, and can be counted. When this is the case the figures shown on the scale at the surface of the liquid are noted. On the left side of the scale is found the quantity of water in cubic centimeters used in making the test, and on the right hand side the percentage of butterfat in the milk. For instance, if 70 c. c. water have been added to the milk in order to produce the degree of transparency above described, then it contains 3·5 p c. butterfat.

Good average cow's milk does not contain less than 3·75 p.c. butterfat; and, if the lactoscope indicates a lower percentage, the sample must be referred to the public analyst. On the other hand, all samples which possess a specific gravity within the limits above mentioned and show by the lactoscope 3·75 p. c. butterfat are to be passed as genuine.

Although the Adulteration Act makes provision for the appointment of food inspectors by the municipalities, and the Department has sought to encourage action in this direction, very little has, so far, been done by municipal authority. The Department must therefore continue the collection and inspection of milk samples, but it may be necessary to state that it cannot go further and undertake the inspection of dairies, a duty which it believes to be incumbent upon the municipal health inspectors.

THOMAS MACFARLANE,
Chief Analyst.

1st December, 1887.

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Bulletin No. 3.

Coffee.

That coffee is one of the articles of food most subject to adulteration has long been known to the public of almost every civilised country. The condition of things with regard to this article in Canada is no better than elsewhere, as may be seen by a reference to the published letter of the Commissioner of Inland Revenue to the Minister, dated 23rd December, 1886, and to the reports of the various public analysts.

The Department has frequently undertaken legal proceedings, under the Adulteration Act, against the retailers and manufacturers of adulterated coffee, and, in the most of cases, has succeeded in obtaining convictions. It is scarcely practicable, however, to prosecute in every case, or to do so successfully before public sentiment has been sufficiently awakened to the necessity for such prosecutions. But it has been judged advisable to publish, in the following tables, the results of the analyses of coffee samples collected during the months of August and September last, with the view of giving the public some idea regarding the state of matters at the present time.

The method of analysis followed in examining these samples is, for the most part, that described by Mr. Anthony McGill, B. A., B. Sc., in his very valuable paper on the subject read before the Chemical Section of the Royal Society of Canada, on the 27th May, 1887. That paper must be referred to when information is desired concerning, more particularly, the chemistry of the subject. Besides discussing it from a practical point of view in this bulletin, a description will also be given of the preliminary test for coffee which the Department has adopted, as mentioned in the Commissioner's letter above cited.

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Date of Collection.	No. of Sample.	Name of Vendor.	Residence.	Moisture.	Ash.				Caffeine.	Specific Gravity of 10 p.c. Extract.	Name of Analyst.	Price per lb.	Remarks.
					Total.	Soluble in water.	Insoluble in water.	Insoluble in acid.					
1887.		HALIFAX, N.S.		p. c	p. c.	p. c	p. c	p. c.	p. c.	p. c.		cts	
Aug. 23...	5363	Miss Quinn.....	11 Sackville St	4·72	3 97	2·60	1 37	0·42	0·14	1 01279	F. X. Lefebvre...	25	Contains roasted grain, besides about 15 p.c. chicory.
do 23..	5364	R. H. Campbell.....	163 Water St	5·00	3 33	1·15	2·18	0 28	0 94	1 01465	do ...	25	do 25 do
do 23...	5365	C. Graham & Co.....	33 Sackville St	3·71	4·33	2 94	1 39	0·45	1·40	1 01311	do ...	30	do 20 do
do 23...	5366	A. McDougall & Son....	234 Hollis St	3·63	4 57	3·71	0 86	0 05	1·38	1 01050	do ...	31	
do 23...	5367	D. F. Power & Co.....	47 Upper Water St.	3 39	4 95	3 63	1 32	0 33	1·26	1 01263	do ...	24	Contain about 15 p.c chicory.
do 23..	5368	Daniel Johnston.....	102 Maynard St	3 65	4·43	2·83	1 60	0 61	1 21	1 01293	do ...	26	Contains roasted grain and about 15 p c chicory.
do 24...	5369	M. Murphy	11 Cornwallis St.....	3·31	5·59	3·43	2·16	0 90	1·46	1·01401	do ...	26	Contains about 25 p.c. chicory
do 24...	5370	Thos. O'Mally	439 Lockman St.....	3·50	4·56	3 57	0·99	0·16	1·48	1·01229	do ...	26	do 15 do
do 24...	5371	Taylor & Christie..	18 Buckingham St.....	3·34	4·45	3 43	1·02	0·17	1 67	1·01067	do ...	28	
do 24...	5372	James Sutherland.....	168 Argyle St.....	4·39	3·86	1·78	2·08	1·00	0 90	1·01946	do ...	33	Contains roasted grain and 50 p.c. chicory.
		PICTOU, N S.											
Aug. 27...	3316	John Munro	Front St.....	4·13	4·56	3 64	0 93	0 07	1,57	1·00993	E. X. Lefebvre...	40	
do 27...	3317	W. S. Harris.....	do	4·96	4 36	2·79	1·57	0 52	1·10	1·01283	do ...	27	Contains roasted grain and 15 p c. chicory.
do 27...	3318	W. S Harris	do	3 81	4·46	3·24	1·22	0 36	1·64	1·00989	do ...	38	
do 27...	3320	David Logan.....	Water St.....	4·15	4·46	3·13	1·33	.....	1·30	1 01195	do ...	30	Contains over 10 p.c. chicory and some roasted grain.
do 27...	3321	Dalzel Paterson.	do	4·56	3 82	2 68	1·14	0·28	1·46	1·01193	do ...	30	do do
		ST. JOHN, N.B.											
Aug. 13...	6145	Irwin & King.	143 Charlotte St...	5·75	4·62	3·66	0 96	0·04	1·31	1·01034	A. McGill	40	
do 13...	6150	John P Maloney.....	156 Duke St.....	5 90	4 46	3·50	0 96	0 01	1 26	1·01006	do	40	
do 13..	6152	E. V. Hunt	40 Sydney St...	5·47	4·16	3·34	0·82	0 02	0·82	1·01004	do	40	Pure, but inferior in quality.
do 13...	6154	Dudne Breese.	1 King Square	6 16	4·58	3·68	0 90	0·08	.....	1·00953	do	34	
do 13...	6156	George Spiller.....	131 Charlotte St.....	6 93	4·68	3 42	1 26	.....	1 06	1·01186	do	36	Contains 10 p. c chicory and some roasted grain.
do 13...	6157	Robert Miller.	113 Charlotte St.....	6·00	4·48	3·78	0·75	0 04	1 90	1·00980	do	36	

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do	16...	6158	Peter Chisholm	29 Charlotte St.	6·41	4·96	3·78	1·18	0·12	0·54	1·01000	do	36	Adulterated with foreign tissue not yet identified.
do	16...	6159	P. J. McPherson	181 Union St.	6·10	4·33	3·51	0·82	0·02	1·78	1 01040	do	40	
do	16...	6160	J. D. McAvity	39 Brussels St.	6·21	4 96	3 67	1·29	0 19	1·42	1 01082	do	40	Contains some chicory and roasted peas.
do	16...	6161	Williams Bros	115 do	6 02	5·20	3·83	1·37	0·30	1·72	1 00996	do		
			QUEBEC.											
Aug.	10...	5196	Labrie & Gagné	St. Peter St	5 50	4·26	3·26	1·00	0 02	1·26	1·01006	A. McGill	47	
do	10...	5197	Toussaint & Co	22 do	6·00	4 96	3·32	1·64	0·46	1·36	1 01038	do	45	Traces of chicory.
do	10...	5198	Sérubé & Chouinard	Finley Market	5 60	4·80	3 72	1·08	0·10	1·44	1·01076	do	40	
do	10...	5199	Louis Poulin	do	6 00	4·78	3·80	0·98	0 06	1·56	1 01072	do	40	do
do	10...	5200	Paquet & Potvin		5·10	4 68	3·62	1·06	0·04	1·42	1·01044	do	36	do
do	16...	6501	F. X. Fortier	Dorchester St., St. Roch	6·20	4·88	3 90	0 98	0 02	1·60	1·01050	do	36	
do	16...	6502	J. B. Rousseau	St. Joseph St. do	5·45	4·36	3·36	1·00	0·04	1·27	1·00886	do	40	
do	16...	6503	J. E. Asselin	do do	7·10	3·10	1·86	1·24	0·06	0·22	1·01574	do	20	Chiefly roasted grain with chicory and a little coffee.
do	16...	6504	J. Labée	do do	6 10	4 68	3·30	1·38	0·18	0·88	1 01212	do	32	10 to 15 p.c. chicory, and traces of roasted grain.
do	16...	6505	J. E. Venner	do St. Sauveur	6·85	4·40	3 34	1 05	0 06	1·38	1·00970	do	40	
			MONTREAL.											
Aug.	13...	4981	Dusseau Bros	595½ St. Lawrence St.	7·71	4·04	3 01	1 03	0·19	1·30	1·01416	McGill & Lefebvre	40	Adult'd with a large amount of roasted beans or peas.
do	19...	4994	Joseph Sauché	1390 Mignonne St	6 98	4·00	2·88	1·12	0·29	1·10	1·01428	do ...	28	do do
do	19...	4995	P. Desaulniers	602 Dorchester St.	7·26	4·24	2 84	1·40	0·52	1·24	1·01460	do ...	30	do do
do	25...	7201	John L. Provost	114 Mansfield St.	7·37	4·22	2·81	1·38	0·19	0·64	1 01708	do ...	30	Adult'd with 35 p.c. chicory and much roasted grain.
do	25...	7202	do	do	5·15	4·56	3·82	0·74	0·10	1·78	1·01001	do ...	40	
do	26...	7203	George Neill	1657 Ontario St.	7 08	4·60	3·20	1·40	0·53	1·10	1·01394	do ...	40	Contains roasted peas, &c.
do	26...	7204	Daoust Bros.	1578 Ste. Catherine St.	6·50	4·40	3 07	1·33	0·34	1·46	1·01410	do ...	40	do grain or peas.
do	29...	7205	F. X. Gareau	1288 Mignonne St.	5·51	4·72	2·97	1·75	0·80	1·36	1·01419	F. X. Lefebvre...	40	Contains roasted grain and 20 p.c. chicory.
do	29...	7206	do	do	4·86	4·32	2·76	1·56	1 02	1·10	1·01489	do ...	35	Contains roasted grain and 25 p.c. chicory.
Sept.	27...	7207	J. P. Beauvais	68 St. Antoine St.	4 02	4·24	3·56	0 68	0·02	1·72	1·01028	do ...	45	
			SHERBROOKE.											
Sept.	9...	3229	C. O. Paterson	Waterville, Que.	3·25	4·39	3 49	0·90	0·17	1·57	1 01002	F. X. Lefebvre...	40	
do	9...	3231	J. & A. McIntosh	do	3 56	4·43	3·54	0 89	.....	1·54	1·01065	T. Macfarlane....	40	
do	19...	3233	R. S. Parker	Sherbrooke	3·31	4·21	3 31	0·87	.....	1·30	1·01033	do ...	40	
do	19...	3234	S. Gendron	do	3·21	4·14	3·32	0·82	.....	1·40	1·01018	do ...	40	
do	19...	3235	L. Proulx	do	3·20	4 61	3·81	0·80	.....	1·38	1·01053	do ...	40	

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Date of Collection.	No. of Sample.	Name of Vendor.	Residence.	Moisture.	Ash				Caffeine.	Specific Gravity, 10 p.c. Extract.	Name of Analyst.	Price per lb.	Remarks.
					Total.	Soluble in water.	Insoluble in water.	Insoluble in acid.					
1887.				p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		cts.	
			KINGSTON.										
Aug. 11...	2930	Stroud Bros.	109 Princess St.	8·10	4 56	2·86	1·70	0·40	0 92	1·02133	A. McGill	30	Contains 50 to 60 p.c. chicory.
do 11...	2932	Thos. Farrell	37 Brock St.	5·40	4·52	3·36	1·16	0·20	1·16	1·01192	do	30	Contains 10 to 15 p.c. chicory, besides roasted peas or beans.
			BELLEVILLE.										
Aug. 12...	2420	John Gilbert.	Belleville.	5 60	4·50	3·72	0 78	0·05	1·79	1·01000	McGill & Lefebvre	30	
do 12...	2421	do	do	5·70	4·72	3·78	0·94	0·05	1 90	1·01052	do	35	
			PRESCOTT.										
Aug. 10...	2522	J. A. Paterson	Prescott.	4·30	4·56	3·48	1·08	1·12	1·36	1·01004	A. McGill	35	
do 10...	2524	C. Whitney	King St.	4 70	4·30	3·36	0·94	0·02	1·56	1 00962	do	40	
			PERTH.										
Aug. 11...	3009	Elliot & Davis	Perth	4 40	4·90	4·0	0·90	0·04	1·16	1·01120	A. McGill	40	Contains 5 p.c. chicory.
do 11...	3010	George Devlin	do	5·99	5 38	3·31	2·07	0·70	1·70	1 01316	do	35	Contains 15 to 20 p.c. chicory.
			OTTAWA.										
Aug. 10...	6834	William Wall	59 Rideau St.	6 03	4·44	3·34	1·10	0·08	1·26	1 01324	A. McGill	40	Contains 15 to 20 p.c. chicory.
do 10...	6835	McLeod & Co.	188 Sparks St.	4·05	4 78	3·46	1·32	0·34	1 92	1·01026	do	40	
			TORONTO.										
Aug. 30...	7010	J. A. Wiseman	312 Parkdale	5·12	4 98	3·52	1·46	0·40	1 59	1·01401	F. X. Lefebvre	35	Contains 20 to 25 p.c. chicory.
do 30...	7071	F. R. Hoare.	126 do	5·	4 96	3 61	1 35	0·36	1 39	1·014:7	do	35	do do

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do	30...	7012	W. Barker	110 Queen St., Park Av.	4·77	4·54	3·50	1·04	0·12	1·52	1·01038	do ...	40	
do	30...	7013	R. W. Loudon	80 Queen St. W. do	4·86	4·34	3 38	0·96	0·09	1·25	1·01017	do ...	40	
do	30...	7014	F. Dean	22 Queen St	4·61	4·48	3·46	1·02	0·13	1·20	1·01036	do ...	35	
do	30...	7015	Mrs. Jas. Davie	1046 Queen St	5·32	4·21	3·13	1·08	0·14	1·33	1·01318	do ...	35	Contains roasted peas and 1[illegible] p.c. chicory.
			Port Hope.											
Aug	20...	2830	D. J. Maclennan	Port Hope	4·40	4 80	3·66	1·14	0·11	1·71	1·00962	F. X. Lefebvre...	30	
do	20...	2832	Simpson & Reed	do	4·76	4·42	3·59	0·83	0·05	1·60	1·00993	do ...	40	
do	20...	2831	J. Mitchell	do	4 78	4 56	3·76	0·80	0 05	1·60	1·01076	do ...	40	
			Peterborough.											
Aug	19...	3120	John Cameron	George St.	5·07	4 57	3 55	1·02	0·17	1·62	1 01032	F. X. Lefebvre...	40	
do	19...	3121	Rush Bros	do	4 54	4·38	3·54	0·84	0 03	1·53	1 0090	do ...	40	
do	19...	3122	Elliott & Turney	do	4·50	4·20	3·36	0·91	0·01	1·33	1·0086	do ...	40	
			Cobourg.											
Aug.	19...	2826	Thomas Battle	Cobourg	4·54	4·67	3 92	0·75	0 05	1·50	1 01080	F. X. Lefebvre...	40	
do	19..	2827	Hooey & Son	do	4·45	4·47	3 58	0·89	0·07	1 84	1·01002	do ...	40	
do	19...	2828	William Burnett	do	4·45	4·40	3·44	0 95	0 14	1·62	1 00942	do ...	30	
			Winnipeg.											
Aug.	13...	5726	E. B. Routledge	463 Main St	3·80	5 64	3·62	2 02	0·80	1·18	1·01208	A. McGill	50	Contains 10 to 12 p.c. chicory
do	13...	5727	do	do	7·20	4·26	2·68	1·58	0·34	0 62	1 01820	do	35	Contains 40 p.c. chicory and some burnt wheat.
do	17...	5728	Canada P. Tea Co	Winnipeg	4·10	4 58	3·34	1·24	0·12	1 60	1·01082	do	40	Cont. less than 5 p c. chicory
do	17...	5731	J. Mullen	46 McDermott St	5·78	4 28	3·08	1 20	0·18	1·38	1·01626	McGill & Lefebvre.	50	Contains 30 to 36 p.c. chicory.
do	17...	5733	H. Hodges & Son	353 Main St	4·51	4·42	3·43	0·99	0·04	4·57	1 01022	do ...	50	
do	17...	5735	A. Anderson	Portage Ave	6 08	4 14	3·16	0·98	0 06	1·41	1·0 991	do ...	30	
do	17...	5737	Roberts Bros	51 Portage Ave	6 09	4·26	3·28	0·98	0 06	1·40	1 00970	do ...	50	
do	19...	5738	J. S. Mills & Co	368 Main St	5·90	4·88	3 79	1·09	....	1·45	1·0 082	do ...	40	Contains 20 p.c chicory.
do	19...	5739	George Adam	70 McDermott St	5·37	5·02	3·79	1·23	....	1·80	1·01026	do ...	40	
do	19...	5740	B. Moffatt	69 McDermott St	4·71	4 74	3·94	0 80	....	1·70	1·00934	do ...	50	

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It is to be understood that where, in the remark column of these tables, no comment is made, the sample is regarded as genuine. The following recapitulation shows the number of samples collected, and the number found adultered :—

	No. collected.	Adulterated.	Genuine.
In Halifax, N.S..	10	8	2
Pictou, N.S.	5	3	2
St. John, N.B.	10	4	6
Quebec	10	5	5
Montreal	10	8	2
Sherbrooke	5	0	5
Kingston	2	2	0
Belleville	2	0	2
Prescott	2	0	2
Perth	2	2	0
Ottawa	2	1	1
Toronto	6	3	3
Port Hope	3	0	3
Peterborough	3	0	3
Cobourg	3	0	3
Winnipeg	10	5	5
	85	41	44

It appears therefore, that 48 per cent. of those samples were impure, but it is not to be supposed that this proportion represents the exact amount of adulteration which prevails. In many of the towns mentioned the collectors of the samples were known to the vendors as revenue officers, and may have been intentionally furnished with articles very much better in quality than those usually sold. There is good reason for supposing that even when pure coffee is asked for by ordinary purchasers they do not always obtain it. In order that, hereafter, the samples collected, not only of coffee, but of other articles of food, may correctly represent the character of the goods sold, the Minister of Inland Revenue has arranged to have the samples taken by persons quite unknown in the locality where the collection is made. It may, therefore, be expected that, in future bulletins, the figures published will give a more exact representation of the characters of the various foods sold throughout the Dominion.

Among the forty-one samples of adulterated coffee above described it will be observed that nineteen were mixed with chicory or other substances free from starch, while twenty-two, besides nearly all containing chicory, had considerable amounts of roasted grain, peas or beans in their composition as well. It has not been, in all cases, found possible to distinguish the origin of the starch, and it is quite possible that some, ascribed to roasted grain, has really been added in the shape of roasted peas. In fact the latter substance is one of the chief adulterants, for it is well known that considerable quantities of it, in a coarsely ground or "cracked" condition, are imported into Canada to be used for mixing with coffee. Whatever some persons may say in favor of using chicory for this purpose, it is plain that the use of roasted peas can have no defenders. Nor does it bring to the working man such a reduction in the price as would justify his purchasing a mixed coffee containing it. The cost of the samples is mentioned in the above tables, and from these it appears that frequently the price of the adulterated is almost as much as the pure article. But taking the lowest prices of 26 cents or 30 cents per pound, it is evident that such are high rates to pay for roasted peas.

The suits which were undertaken by the Department for coffee adulteration, were only in cases of the most flagrant nature and where roasted grain or peas had been used as the admixture. It appears, however, from the above tables that many cases of adulteration with chicory were equally worthy of punishment. As much as

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60 per cent. of it has in some cases been found, and those who advocate its use would scarcely recommend an addition of more than 15 or 20 per cent. When it is considered that roasted chicory contains nothing in the shape of nutriment except sugar, and that it is owing to the presence of the latter, in a burnt condition, that it is useful in coloring the decoction, it is difficult to see why any one should persist in using it. The truth is, that its addition is no improvement to the coffee, and if enquiry be made at those hotels or restaurants where a cup of good coffee is obtainable, it will be found that only the pure article is used in preparing it. However this may be, it would seem necessary to fix a limit as regards the extent to which chicory may be used in a "coffee mixture," so that none containing over, say, 20 per cent. of it may be sold.

It has been remarked, both on the bench and in the press, with regard to the prosecutions undertaken by the Department, that it was unfair to bring such against the retailers; that the manufacturers were more to blame. It may be answered that suits against the latter have been successfully carried through by the Department, but it is the fact that, as is evident from the price lists of manufacturers, the retailers are or ought to be well aware of the adulterated character of much of the coffee they sell. At any rate there is certainly no justification for the sale, as coffee, of an article like one of the samples above mentioned, which is described as "chiefly roasted grain with chicory and a little coffee." To those who know how enjoyable a cup of really good coffee is, the suppression of its adulteration will appear a meritorious work. Some people are even of opinion that, if such a pure beverage were readily obtainable, the consumption of alcoholic liquors would be very considerably lessened.

With regard to the preliminary test which the collectors of coffee samples will hereafter be instructed to use, it may be remarked that it is Hager's method as modified by Mr. McGill. It is to be carried out as follows:—

Prepare a saturated solution of common salt. Shake up a small quantity of the coffee to be tested with ten times its bulk of the brine, in a test tube at least three-fourths of an inch in diameter Repeat the shaking twice, so that the coffee may be thoroughly wetted, and then allow the tube to stand for half an hour. Observe then the color of the brine, and the quantity of the sample floating on the surface, as well as the amount deposited at the bottom of the tube. If the color is a very pale amber, and nearly the whole of the coffee floats, the sample may be assumed to be pure. A decidedly darker or yellow tint indicates admixture of chicory, etc., in which case there is also a larger deposit. This increases and the color of the brine grows darker with the impurity of the coffee. With 30 per cent. chicory the brown color is very marked, and with a still larger percentage of adulterant the brine becomes dark brown.

The collectors or food inspectors will, of course, be instructed to keep a record of the samples tested, and to send to the Department or the public analyst only such as are found to be doubtful by this method. In this way it is hoped that a larger number of samples will be inspected, and that the necessity will be avoided for submitting too many pure coffees to analysis.

THOMAS MACFARLANE, F.R.S.C.,
Chief Analyst.

OTTAWA, 11th February, 1888.

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Bulletin No. 4.

Fertilisers, 1888.

The results of the analysis of the samples of Agricultural Fertilisers furnished to the Department, by manufacturers and vendors throughout the Dominion, during 1886 and 1887, have been recorded in the usual supplements to the annual departmental reports. Since, however, much delay necessarily occurs before these can reach the public, it has been thought advisable to publish the results of the examination of the fertilisers offered for sale in 1888 in the present form.

Although the Fertilisers Act, 1885, requires that the samples shall be provided "in the course of the month of January in each year," and although its provisions have been extensively advertised, still samples continued to be forwarded to the Department up to the beginning of the present month. The consequence is that the publication of this Bulletin has been delayed beyond the time when purchases of fertilisers are made for spring use. It is impossible that this irregularity can be allowed in future, and it will be well for those engaged in the trade to note that hereafter samples reaching the department later than the 31st of January will be neglected, so that no delay may take place in the issue of the Fertiliser Bulletin, which it is proposed to publish at the end of March in each year. It is to be remembered that a further consequence of the failure to provide samples of fertilisers at the proper time will be that the sale of such will become illegal, and that the Department will be obliged to prosecute parties offering them. Manufacturers must by this time be aware that the Fertilisers Act is in full operation, and that, in the interest of the farming community, its provisions must be strictly enforced.

The following is a list of the samples received for 1888, together with the names of the manufacturers and the parties from whom they were received. After it is given a table showing the results of analysis.

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Record of Fertilisers Analysed.

No.	Designation.	Name of Manufacturer.	By Whom Sent.	Price per Ton.
				$
59	Pure bone	W. P. Churchill, Yarmouth, N.S.		34
60	Bradley's XL phosphate...	Bradley's Fertilising Co., 27 Kilby Street, Boston, Mass.	Robt. Bradley, Treas.	39
61	Bradley's patent superphosphate			
62	Superphosphate	Brockville Chemical and Superphosphate Co., Brockville, Ont.	Henry Torrance, acting Manager	32
63	Acid phosphate			
64	Special fertiliser	Standard Fertiliser and Chemical Co., Smith's Falls, Ont.	R. Brodie Manager	40
65	Standard fertiliser			35
66	Fruit tree fertiliser			42
67	No. 1 fertiliser			32
68	Superphosphate of lime			26
69	Lawn dressing			25
70	Phosphate manure	Peter R. Lamb & Co., Toronto	Manufacturers	25
71	Bone meal			30
72	Phosphate screenings			20
73	Fish fertiliser	E R. Oakes, Digby, N. S.	do	
74	Bradley's XL phosphate	Bradley's Fertiliser Co., Boston	J. D. B. Fraser & Son, Pictou, N.S.	39
75	Alkaline bone	E. Frank, Coe		
76	High grade fertiliser			
77	Popular phosphate			
78	Ground bone	Jack & Bell, Halifax, N.S.	Manufacturers	40
79	Medium bone			
80	Bone meal			
81	Superphosphate	Pidgeon & Mosher, Windsor, N.S.	do	39
82	Superphosphate fertiliser	Thomas Reid, St. John, N.B.	do	40
83	Bay State fertiliser	Clark's Cove Guano Co.	J. M. Auld, Charlottetown, P.E.I.	
84	Carter's turnip fertiliser	James Carter & Co., London, E.	Geo. Carter, Charlottetown, P.E.I.	
85	Rennie's blood manure	Wm. Rennie, Toronto	W. B. Robertson & Co., Charlottetown, P.E.I.	
86	Ceres superphosphate	Jack & Bell, Halifax	Manufacturers	38
87	Cumberland superphosphate	Cumberland Bone Co.	Jardine & Co, Importers, St. John, N.B.	
88	Seeding-down fertiliser			
89	Bradley's XL superphosphate	Bradley & Co, Boston, Mass.	do do	39
90	B D. seafowl guano	do do	Manufacturers	
91	Superphosphate of lime	D. P. Cory, Consecon, Ont	do	
92	High grade ammoniated bone superphosphate	E. Frank, Coe	McGregor & Co., New Glasgow, N.S.	
93	Red brand excelsior guano			
94	Soluble pacific guano	Pacific Guano Co., Wood Holl, Mass.	Glidden & Curtis, Boston	40
95	Thomas phosphate powder	H. & E. Albert, 17 Gracechurch Street, London, E.	Manufacturers	12
96	Fertiliser	Samuel Archibald, Truro, N.S.	do	
97	Defiance complete fertiliser	Clark's Cove Guano Co.	W. H. Watlington, Toronto.	
98	Lawn and garden fertiliser			

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ANALYSIS OF FERTILISERS.

No. of Sample.	Name of Brand of Fertiliser.	Ammonia.	Phosphoric Acid.					Potash.	Moisture.
		Sometimes as Nitrogen.	Soluble in Water.	Reverted, or as Bone Phosphate.	Insoluble.	Total.	Total Available.		
		p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
59	Pure Bone—								
	Guaranteed								
	Found	4·42		18·50		18·50	18·50		7·95
60	Bradley's X L Phosphate—								
	Guaranteed	2½ to 3½	8 to 10			10 to 12	8 to 10	1 to 2	
	Found	2·52	6·81	1·65	3·46	11·92	8·46	2·12	15·28
61	Bradley's Patent Superphosphate—								
	Guaranteed	2½ to 3½	6 to 8			10 to 12	6 to 8	1½ to 2½	
	Found	2·63	6·94	2·09	3·22	12·25	9·03	2·64	14·59
62	Superphosphate—								
	Guaranteed	1·72	9·91		3·62		9·91	2	11·25
	Found	1·58	9·21	1·31	1·61	12·13	10·52	1·75	19·50
63	Acid Phosphate—								
	Guaranteed		17·47		2·55		17·47		10·89
	Found		16·72	0·89	0 65	18·26	17·61		11·14
64	Special Fertiliser—								
	Guaranteed	3½ to 4½				10 to 12	8 to 10	6 to 8	
	Found	3·49	6·48	1·30	3·62	11·40	7·78	7·21	10·47
65	Standard Fertiliser—								
	Guaranteed	2½ to 3½				11 to 12	9 to 11	2 to 2½	
	Found	2·88	7·57	1·63	3·96	13·16	9·20	2·85	12·60
66	Fruit Tree Fertiliser—								
	Guaranteed	2 to 3				10 to 12	8 to 10	8 to 10	
	Found	2·26	7·79	1·35	2·46	11·60	9·14	9·42	11·58
67	No. 1 Fertiliser—								
	Guaranteed	1½ to 2½				12 to 14	9 to 11	1 to 1½	
	Found	1·75	8·94	1·83	3·54	14·31	10·77	1·96	13·50
68	Superphosphate of Lime—								
	Guaranteed					14·16	12 to 14		
	Found		10·04	1·36	3·41	14 81	11·40		15·61
69	Lawn Dressing—								
	Guaranteed	2 to 3				6 to 8	4 to 5	2½ to 3½	
	Found	3·23	4·79	0·96	3·01	8·76	5·75	3·56	19·78
70	Phosphate Manure—								
	Guaranteed	4·01	1·50	3·75			5·25		
	Found	6·14		5·86		5·86	5·86		4·54
71	Bone Meal—								
	Guaranteed	2·00		20·00			20		
	Found	2·38		26·14		26·14	26·14		9·32
72	Phosphate Screenings—								
	Guaranteed	3·16	1·12	7·60			8·72		
	Found	7·91		8·93		8·93	8·93		5·36

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ANALYSIS OF FERTILISERS—*Continued.*

No. of Sample.	Name of Brand of Fertiliser.	Ammonia.	Phosphoric Acid.					Potash.	Moisture.
		Sometimes as Nitrogen.	Soluble in Water.	Reverted, or as Bone Phosphate.	Insoluble.	Total.	Total Available.		
		p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
73	Fish Fertiliser—								
	Guaranteed	.....	.....	.....	.....	.....	.....	.....	.....
	Found	3·36	.....	.....	2·13	2·13	.....	.....	25·48
74	Bradley's X L Phosphate—								
	Guaranteed	2½ to 3½	8 to 10	.....	.....	.....	8 to 10	1 to 2	.....
	Found	2·72	6·94	2·10	2·50	11·54	9·14	1·51	12·55
75	Alkaline Bone—								
	Guaranteed	.....	.....	.....	.....	.....	9 to 12	1·62 to 2·16	.....
	Found	1·02	5·93	2·91	4·31	13·15	8·84	1·70	8·57
76	High Grade Fertiliser—								
	Guaranteed	2½ to 3	.....	.....	1 to 2	.....	9 to 12	1·62 to 2·16	.....
	Found	2·21	7·14	1·54	3·02	12·00	8·98	2·50	9·47
77	Popular Phosphate—								
	Guaranteed	1·20 to 1·62	.....	.....	.....	5·38 to 6·16	.....	1·12 to 1·24	.....
	Found	1·02	2·91	1·19	.....	4·10	4·10	1·42	17·82
78	Ground Bone—								
	Guaranteed	3·01 to 3·32	.....	.....	.....	23·27	23·27	.....	.....
	Found	4·67	.....	23·74	.....	23·74	23·74	.....	8·85
79	Medium Bone—								
	Guaranteed	3·01 to 3·32	.....	23·27	.....	23·27	23·27	.....	.....
	Found	3·91	.....	22·73	.....	22·73	22·73	.....	8·75
80	Bone Meal—								
	Guaranteed	3·01 to 3·32	.....	23·27	.....	23·27	23·27	.....	.....
	Found	4·59	.....	20·92	.....	20·92	20·92	.....	10·50
81	Superphosphate—								
	Guaranteed	.....	.....	.....	.....	.....	.....	.....	.....
	Found	2·72	6·23	.....	Traces	6·23	6·23	1·70	9·09
82	Superphosphate Fertiliser—								
	Guaranteed	.....	.....	.....	.....	.....	.....	.....	.....
	Found	5·04	0·77	5·19	5·14	11·50	11·50	.....	25·02
83	Bay State Fertiliser—								
	Guaranteed	2½ to 3½	.....	.....	.....	.....	9 to 12	2 to 3	.....
	Found	3·91	9·05	1·47	2·79	13·31	10·52	1·05	4·83
84	Carter's Turnip Fertiliser—								
	Guaranteed	1·10	9·20	.....	.....	12·42	9·20	1·64	.....
	Found	1·19	8·95	1·07	0·70	10·72	10·02	2·22	8·70
85	Rennie's Blood Manure—								
	Guaranteed	5·95	0·32	.....	.....	8·87	.....	2·04	10·98
	Found	9·43	.....	.....	.....	10·53	.....	0·89	4·84
86	Ceres Superphosphate—								
	Guaranteed	2 to 2·67	.....	.....	.....	10·16	10·86	2·13 to 2·44	.....
	Found	1·36	5·09	1·91	1·39	8·40	8·40	3·09	19·84

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ANALYSIS OF FERTILISERS—*Continued.*

No. of Sample.	Name or Brand of Fertiliser.	Ammonia.	Phosphoric Acid.					Potash.	Moisture.
		Sometimes as Nitrogen.	Soluble in Water.	Reverted, or as Bone Phosphate.	Insoluble.	Total.	Total Available.		
		p. c.	p. c.	p. c.	.	p. c.	p. c.	p. c.	p. c.
87	Cumberland Superphosphate—								
	Guaranteed	2 to 3	5 to 7	3 to 5	2 to 4	12 to 14	.....	2 to 3	.....
	Found	2·21	5·53	5·21	3·53	14·27	10·74	3·27	12·50
88	Seeding Down Fertiliser—								
	Guaranteed	2	2 to 4	3 to 5	11 to 13	18 to 20	.....	1	.....
	Found	1·70	2·26	11·61	10·35	24·22	13 87	1 40	14·52
89	Bradley's XL Superphosphate—								
	Guaranteed	2½ to 3½	8 to 10	.....	.....	10 to 12	.....	1 to 2	.....
	Found	3·06	7·04	2·91	2·92	12 87	10 31	2·19	13·42
90	B. D Seafowl Guano—								
	Guaranteed	2½ to 3½	8 to 10	.....	.....	10 to 12	8 to 10	1 to 2	.....
	Found	2·55	7·05	1·69	3·38	12·12	8·74	1·93	10·69
91	Superphosphate of Lime—								
	Guaranteed	.....	.....	.....	.....	.....	.....	.....	.....
	Found	1·50	0·19	.....	0·60	0·79	.....	.....	21·51
92	High Grade Ammoniated Bone Superphosphate—								
	Guaranteed	2½ to 3	.....	.....	1 to 2	.....	9 to 12	1·91	.....
	Found	2·81	7·25	1·25	3·38	11·88	8·50	1 83	10·82
93	Red Brand Excelsior Guano—								
	Guaranteed	4 to 5	.....	.....	.....	10 to 12	.....	5·47	.....
	Found	3·74	6·41	1·06	1·40	8·87	7·47	4·53	10·65
94	Soluble Pacific Guano—								
	Guaranteed	3·34	.....	.....	1·94	12·03	10·09	2·78	.....
	Found	3·23	6·37	2·60	2·45	11·42	8·97	2·66	12 35
95	Thomas Phosphate Powder—								
	Guaranteed	.....	.....	.....	.....	17 to 20	.....	.....	.....
	Found	.....	.....	3·96	14·08	18·04	.....	.....	0·10
96	Fertiliser—								
	Guaranteed	1·50	2·45	.....	6·05	8·50	.....	.....	.....
	Found	0·68	None.	.....	2·15	2·15	.....	.....	12·40

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ANALYSIS OF FERTILISERS—*Concluded.*

No. of Samples.	Name or Brand of Fertiliser.	Ammonia.	Phosphoric Acid.					Potash.	Moisture.
		Sometimes as Nitrogen.	Soluble in Nitrogen.	Reverted, or as Bone Phosphate.	Insoluble.	Total.	Total Available.		
		p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
97	Defiance Complete Fertiliser—								
	Guaranteed	1 to 1½	.....	.....	.....	.....	6 to 8	2 to 3	.....
	Found	1·02	1·51	0·35	4·26	6·12	.....	2·70	11·76
98	Lawn and Garden Fertiliser—								
	Guaranteed	4 to 6	.....	.....	.....	.....	5 to 7	4 to 5	.....
	Found	2·89	3·57	0·05	4·41	8·03	.....	4·59	9·04

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The Fertilisers Act requires that every ammoniated superphosphate shall contain at least 5 per cent. of soluble phosphoric acid and 2 per cent. of ammonia, and that every acid phosphate or dissolved bone shall contain at least 8 per cent. of available phosphoric acid. An inspection of the figures in the foregoing table will show that Fertilisers Nos. 73, 77, 91, and 96 do not come up to the standard, and consequently their sale at any higher price than $10 per ton is illegal. Neither does the law seem to have been complied with in Nos. 97 and 98, although these cases are doubtful owing to the difficulty of distinguishing between the insoluble phosphoric acid of bone and of mineral phosphate when present in compounded manures.

In a former report dated 20th December, 1886, attention was called to the large amount of money which farmers pay for the ammonia in these fertilisers, and which might be saved if sufficient care were taken to preserve that contained in barn-yard manure. Nearly the whole of the nitrogen in the fodder fed to farm stock is to be found in the excrements of the animals, and one-half of it is contained in the urine. It is further the fact that 95 per cent. of the potash contained in the food of oxen and sheep may be recovered by carefully saving the liquid manure only. To secure the nitrogen or ammonia and the potash, the means are very simple. The dung from the different animals should be brought together, and kept under cover at a lower level than the stable floor, so that the liquid manure may flow upon, over and down through it. In this way all the different sorts and both parts of the manure are properly blended, the solid part and the bedding kept moist and none of the urine escapes. It is further necessary to strew the stable floor, below and behind the animals, with 2 lbs. per 1000 lbs. live weight, daily, of ground plaster or sulphate of lime, which has the effect of retaining the ammonia resulting from the decomposition of the liquid, and the fermentation of the solid manure.

It has recently been proposed to obtain these results by the use of superphosphate, in place of ground plaster, and experiments by Heiden, Dietzell and others in this direction have been entirely successful. Dietzell mentions that 1¼ lbs. of phosphoric acid only are required for the treatment of 1000 lbs. of stable manure. The use of "plain superphosphate" in this way must result in the production of a manure of every excellent quality.

No. 95 in the above table is a sample of the finely ground Thomas-Gilchrist slag to which reference was made in my report of 25th December, 1886. The determination of the "reverted" phosphoric acid in it was made in the same manner as the other fertilisers, and not by any of the special methods recommended for this material. No. 95 is guaranteed to be so finely ground that 85 to 90 per cent. of it passes through a 100 mesh sieve. Large quantities of this substance are now being used by English and German Agriculturists. In the second half of last year 120,547 tons were sold in Germany, of which quantity 13,288 tons were exported.

THOMAS MACFARLANE.
Chief Analyst.

21st May, 1888.

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Bulletin No. 5.

Domestic Waters.

The outbreak of typhoid fever which occurred in Ottawa City last November was, at that time, attributed by many persons to the impure character of the water supplied by the corporation from the Ottawa River. It was not supposed that the river water itself had occasioned the disease, but it was asserted that contamination had been introduced into it from Rochester Creek, and had then found its way to the supply pipe. The matter was reported upon by an investigating Committee of the Provincial Board of Health, and several analyses of the water were carried out by Professor Marsan, M.A., of Ottawa College, and Mr. Frank Schutt, M.A., F.C.S. Chemist of the Central Experimental Farm. Differences of opinion continued, and some controversy took place, chiefly with regard to the propriety of forming a judgment regarding the purity of water by comparing the results obtained from its analysis with standards adopted in Great Britain or the United States.

Considering the very different nature of the "uplands" of Canada from those of other countries, and the fact that its rivers rise for the most part in forest covered districts and often pass through marshy land and lakes, there seems to be some grounds for doubting the justice of using foreign standards wherewith to judge them. I therefore suggested to the Commissioner of Inland Revenue the wisdom of collecting samples of domestic waters from various parts of the Dominion, and analysing them by a uniform method in order if possible to ascertain the relative purity of the water available for drinking purposes in various cities and towns of the Dominion. The Commissioner approved of the suggestion, and issued orders for collecting the samples, which was done for the most part in February and March last. The work done upon these samples by the various district analysts will be given in the regular Departmental Report. In the present bulletin reference will only be made to the analyses carried out by my assistant, Mr. Anthony McGill, B.A., who was especially careful in subjecting all the samples to exactly the same mode of treatment. Mr. McGill's results are given in the following tables, and after these will be given his report on the subject in his own words.

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Serial Number.	Departmental Number and Designation.	Date of Collection.	Source.	Physical Character.	Total Solids. Dry at 100° C.	Ignited.	Loss.	Phenomena on Ignition.
1	1. Montreal.....	Feb. 8...	Wheel house at water works.	... .	80 5·6	.....	.....	....
2	2. Montreal.....	Feb. 8...	St. Cunegonde Water Works.	Clear; nearly colorless.	132 9·24	52 3·64	80 5·6	Slight charring..
3	3. Montreal.....	Feb. 9...	Entrance of cut from St. Lawrence to wheel house.	Clear; very pale straw color.	.....	.....	.....	....
4	4. Montreal.....	Feb. 10..	Tap in laboratory, In. Rev. office.	....	.....	.....	.....	....
5	7. Montreal.....	Feb. 11..	Tap in fire station, 12.	Clear; very pale straw color.	.....	.....	.....	....
6	8. Montreal.....	Feb. 11..	Tap in fire station, 11.	Clear; pale straw color.	.....	.....	.....	....
7	9. Montreal.....	Feb. 13..	St. Lawrence, 10 ft from wharf of Hochelaga Cotton Co.	Fairly clear; straw color.	132 9·24	96 6 72	36 2·52	....
8	17. N.S.....	Feb. 18..	A brook 1 mile south of Truro, N.S.	Clear; light brown color.	36 2·52	12 0·84	24 1·68	Blackened.....
9	119.....	Feb. 20..	River St. Lawrence at Three Rivers, at outlet of main sewer near Bagstock's Well.	Clear; dark straw color.	144 10·08	76 5·32	68 4·76	Blackened.....
10	1. Ottawa.....	Feb. 27..	Ottawa River, mouth of clear water pipe, at depth of 14 ft.	Fairly clear; very dark color.	52 3·64	16 1·12	36 2·52	Blackened.....
11	2. Ottawa.....	Feb. 27..	South side of Ottawa River, below mouth of Rochester Creek.	Clear; dark brown color.	44 3·08	16 1·12	28 1·96	Distinct blackening.
12	3. Ottawa.....	Feb. 27..	Pier No. 3, C.P.R Bridge, at depth of 3½ ft.	Clear; dark brown color.	80 5·6	44 3·08	36 2·52	Blackened.....
13	4. Ottawa	Feb. 28..	Ottawa River, at mouth of Rideau.	Slight turbidity; dark color.	160 11·2	76 5·32	84 5·88	Slight blackening.
14	....	May 3...	From tap at laboratory.	Fairly clear; dark brown color.	.....	.....	.....	....
15	32. N.B.....	Feb. 29.	River St. John, at Fredericton, N.B.	....	72 5·04	40 2·8	32 2·24	Blackened.....
16	142. Que.....	Mar. 6...	Richelieu, near St. John's Que.	....	68 4·76	24 1·68	44 3·08	Blackened.....

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First line of Figures, *parts per Million* (millegrammes per litre).
Second line of Figures *grains per Gallon*.

Nitrogen.			Chlorine in Chlorides.	Phosphates.	Oxygen, consumed by Organic Matter at 80° Fahr.		Valuation.	A.	B.	Remarks.
As Albuminoid Ammonia.	As Free and Saline Ammonia.	As Nitrates and Nitrites.			15 Minutes.	4 Hours				
0·1230 0·0086	0·0510 0·0036	....	3·0 0·21	Doubtful traces.	0·360 0·025	0 480 0·034	....	I	I	Good.
0·0658 0·0046	0 0247 0·0017	0 0753 0·0053	3·0 0·21	None.	0·120 0·008	0·480 0·034	17·5	I	I	Good.
0·1975 0·0138	0·0905 0·0063	None.	0·0 0·28	None.	0·360 0·025	0·680 0·048	....	III	I	Fairly good.
....	0·0527 0 0037	....	4·0 0·28	None.	.....	1 016 0·071	....	.....	I	
0·0658 0·0046	0·0082 0 0006	0·1418 0·0099	3·0 0·21	....	0·184 0·013	0·400 0·028	....	I	I	Good.
0·0526 0·0037	0·0082 0·0006	0.0918 0·0064	3·0 0·21	....	0·196 0·014	0·400 0·028	....	I	I	Good.
0·1135 0·0079	0·0823 0·0058	None.	4·0 0·28	None.	0·168 0·012	0·840 0·059	30·+	II	I	Fairly good.
0·0806 0·0056	0·0164 0·0011	0·1336 0·0093	4·5 0·32	None.	1·168 0·082	2·720 0·190	71·5	II	II	Fair.
0·1823 0·0128	0·0132 0·0009	0·3368 0·0236	8·0 0·56	Heavy traces.	1·836 0·129	4·380 0·307	115·5	III	IV	Impure.
0·2748 0·0192	0·0132 0.0009	....	2·0 0·14	None.	2 808 0·197	5·760 0·403	164·+	III	IV	Impure.
1·2469 0·0173	0·0098 0·0007	....	2·5 0·18	Doubtful traces.	2·768 0·194	6·280 0·439	164·+	III	IV	Impure.
0·1975 0·0138	0·0049 0·0003	....	2·0 0·14	None.	2·664 0·186	5·800 0·406	152·+	III	IV	Impure.
0·2469 0·0173	0·1152 0 0081	....	4·5 0·32	Traces.. ...	1·652 0·116	3 832 0·268	118·+	III	IV	Impure.
0·1234 0·0086	0·0543 0 0038	0 2457 0·0172	1·5 0·105	....	2·848 0·199	5·208 0·365	149·+	III	IV	Impure.
0·1069 0·0075	0·0592 0·0041	....	0·0	None.	1·692 0·118	3·020 0·211	89·+	II	III	Fair.
0·0658 0·0046	0·0279 0 0020	....	9·0 0·63	None.	0·744 0·052	1·848 0·029	46·+	I	II	Good.

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RIVER WATERS—

Serial Number.	Departmental Number and Designation.	Date of Collection.	Source.	Physical Character.	Total Solids. Dry at 100° C.	Ignited.	Loss.	Phenomena on Ignition.
17	143. Que.....	Mar. 6...	Tap at the barracks, St. John's.	Clear; straw color.	60 4·2	40 2·8	20 1·4	Blackened.....
18	145. Que.....	Mar. 6...	Tap in school at St. John's, Que.	Clear; straw color.	68 4·76	32 2·24	36 2·52	Blackened.....
19	62.....	Mar. 20..	Otonabee River at Peterboro'.	Clear; light brown color.	112 7·84	60 4·2	52 3·64	Decided blackening.....
20	158.....	Mar. 24..	Avon, near Stratford, Ont.	Slight turbidity; light brown color.	204 14·28	112 7·84	92 6·44	Blackened.....
21	5800.....	May 8...	Assiniboine River, near Winnipeg.	Very turbid When clear by subsidence has a brownish color.	356 24 92	276 19·32	80 5·6	Blackened.....

WELL WATERS

1	5. Que.....	Feb. 10..	Well at 56 Champlain Street, Montreal.	.....	180 12·6	120 8·4	60 4·2	.....
2	6. Que.....	Feb. 10..	Well at 122 Dufferin Street, Montreal.	.....	1112 77·84	.....	.....	.....
3	10. N.S.....	Feb. 15..	"Fly Catcher's Pump" at Pictou, N.S.	.....	240 16·8	144 10·08	96 6·72	No charring.....
4	14. N.S.....	Feb. 16..	McPherson's Well, New Glasgow, N.S.	Clear, and nearly colorless.	360 25·2	250 17·5	110 7·7	.....
5	19. N.S.....	Feb. 18..	Well at Truro, N.S., in centre of town.	Clear, and colorless.	152 10·64	100 7·0	52 3 64	No charring.....
6	115. Que.....	Feb. 16..	Well on St. Viateur Street, Joliette.	Some turbidity; very brown color.	292 20·44	200 14·0	92 6·44	Charred.....
7	130. Que.....	Feb. 27.	Well at No. 2 Fire Station, Quebec.	.....	592 41·44	488 34·16	104 7·28	Slight charring..
8	33. N.B.....	Mar. 2...	Well at Sussex, N.B., centre of town.	.....	124 8 68	88 6·16	36 2·52	Very slight charring.
9	35. N.B.	Mar. 2...	Well at Sussex, N.B., east end (Old Sussex).	.....	84 5·88	32 2·24	52 3·64	No charring.....

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Concluded.

Nitrogen.			Chlorine in Chlorides.	Phosphates.	Oxygen, consumed by Organic Matter at 80° Fahr.		Valuation.	A.	B.	Remarks.
As Albuminoid Ammonia	As Free and Saline Ammonia	As Nitrates and Nitrites			15 Minutes.	4 Hour				
0·0790 0 0055	0·0033 0·0002	0·3967 0·0278	9·0 0 63	None.....	0·800 0 056	1·600 0·112	49·5+	II	II	Good,
0·1135 0·0079	0·0132 0·0009	0·1368 0·0096	9·0 0·63	None.....	0·740 0·052	1·668 0·117	49 0	II	II	Good.
0·1349 0 0094	0·0164 0·0011	0·3836 0 0269	0 5 0 04	None.....	1·508 0 106	3 252 0·228	89·5	III	III	Of doubtful quality.
0·1564 0 0109	0 0148 0 0010	1·2352 0 0865	1·0 0·07	None.....	1·988 0 139	4·272 0·299	119	III	IV	Impure.
0·5400 0 0378	0 0100 0·0007	0·2100 0·0147	20·0 1·4	None.....	1·680 0·118	3·640 0·255	150	III	III	The suspended mineral matter is 812 per million (=56·84 grains per gallon). The valuation given is for the water after clearance by subsidence. Impure.

First line of Figures, *parts per Million* (millegrammes per litre).
Second line of Figures, *grains per Gallon*.

0·0329 0 0023	0·1646 0 0115	.....	14·5 1·015	None.....	0·068 0·005	0·200 0·014	14·+	I	I	Good
0·2551 0 0179	0 5598 0 0392	.....	260·0 16·2	.....	0·236 0·016	1·000 0·070	104·+	III	II	Very bad.
0·0494 0·0035	0·0164 0·0012	.....	37·0 2·59	None.....	0·028 0 002	0·030 0 002	14·+	I	I	Good.
0·0510 0·0036	0·0329 0 0023	1·6171 0·1132	65·0 4·55	.....	0 000	0.280 0·020	25·+	I	I	Good.
0·0329 0·0023	0 0345 0·0024	4·5655 0 3196	21·0 1·47	None.....	0·040 0·003	0·304 0 021	17	I	I	Good.
0·3621 0·0253	0·0181 0 0013	0 8319 0·0582	32·0 2·24	Heavy traces.	6 008 0·421	12·576 0·880	340	III	IV	Very impure.
0·1728 0·0121	0·0098 0·0007	4 1902 0·2933	68·0 4·76	Heavy traces.	1·940 0·136	4·132 0·289	135·+	III	IV	Impure.
0·0247 0·0017	0·0033 0·0002	.....	7·0 0·49	None.....	0·124 0 009	0 940 0·066	145·+	I	II	Good.
0·0345 0 0024	0·0345 0·0024	.....	5·0 0·35	None.....	0 072 0 005	0·600 0 042	12·+	I	II	Good.

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Serial Number.	Departmental Number and Designation.	Date of Collection.	Source.	Physical Character.	Total Solids.			Phenomena on Ignition.
					Dry at 100° C.	Ignited.	Loss.	
10	31. N.B.....	Feb. 29..	Well at Fredericton, N.B.	.....	648 45·36	392 27·44	256 17 9.	Very slight blackening.
11	138. Que.....	Mar 2...	Well at College of Notre Dame de Lévis.	Clear; nearly colorless.	388 27·16	268 18·76	120 8·40	No blackening...
12	38. N.B.	Mar. 5...	Well at Moncton, N.B.	Clear; very pale straw color.	1328 92 96	888 62·16	440 30·80	Slight blackening.
13	147. Que.....	Mar. 8...	Well in yard of Hon. L. Beaubien's house, Outremont.	Very turbid; brown color.	412 28 84	248 17 36	164 11·48	Slight blackening.
14	148. Que.	Mar. 8...	Well near the schoolhouse, Outremont.	Clear; straw color.	296 20·72	192 13·44	104 7 28	Slight blackening.
15	40. N.B.....	Mar. 7...	Well at Chatham N.B.	Turbid; dark brown color.	180 12 6	100 7·0	80 5·60	....
16	44. Ont.....	Mar. 15..	A public well, Market Square, Perth, Ont.	Clear; straw color.	1012 70 84	728 50 96	284 19·88	Scarcely blackened.
17	47. Ont.....	Mar. 15..	A well in west end, Perth, Ont.	Clear; straw color.	968 67·76	648 45 36	320 22·4	No blackening...
18	51. Ont	Mar. 16..	A well in general use, Brockville, Ont.	Clear; straw color.	872 61·04	544 38·08	328 22·96	No blackening...
19	54. Ont.....	Mar. 17..	A well on Wellington Street, Kingston.	Slightly turbid; straw color.	736 51·52	508 35·56	228 15·96	No blackening...
20	59. Ont.....	Mar. 19..	A public well at Belleville, Ont.	Turbid; straw color.	596 41·72	440 30·8	156 10·92	Slight charring.
21	153. Ont.....	Mar. 20..	Well at pumping Station of Hamilton Water Works.	Clear; nearly colorless.	128 8 96	84 5·88	44 3·08	Slight blackening.
22	61. Ont.....	Mar. 20..	A well at Peterboro', Ont.	Some turbidity; dark straw color.	836 58 5	532 37·2	304 21·3	Very slight blackening.
23	63. Ont.....	Mar. 20..	A well in Ashburnham, Ont.	Clear, and nearly colorless.	424 29·68	312 21·84	112 7·84	Very slight blackening.
24	160. Ont..	Mar. 24..	A well near a school in Stratford, Ont	Colorless; very little suspended matter.	372 26·04	280 19·6	92 6·44	No blackening...
25	163. Ont.....	Mar. 28.	A well at Royal Exchange Hotel, Berlin, Ont.	Clear; nearly colorless.	740 51 8	580 40 6	160 11·2	Very slight charring.

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Continued.

Nitrogen.			Chlorine in Chlorides.	Phosphates.	Oxygen, consumed by Organic Matter at 80° Fahr.		Valuation.	A.	B.	Remarks.
As Albuminiod Ammonia.	As Free and Saline Ammonia.	As Nitrates and Nitrites.			15 Minutes.	5 Hours				
1·1728 0 0121	0·0000	....	103·0 7·21	None	1·032 0·072	2·000 0·140	88·5+	III	III	Impure.
0 0905 0·0063	0·0082 0 0006	6·9915 0 4894	49 0 3·43	None	0·336 0·024	0·824 0·058	95·5+	II	II	Of doubtful quality.
....	....	2·6000 0·1820	74·5 5·21	Slight traces.	0 388 0 027	1·200 0·084	225·+	.....	II	Of doubtful quality.
0·0905 0·0063	0·0247 0·0017	1·7753 0·1243	2·5 0·175	None.....	0·400 0·028	0 664 0 046	42·5	II	II	Fair.
0 0987 0·0069	0·0576 0·0040	5·4424 0 3810	7·0 0·49	None	0·320 0·022	0·688 0 048	88·5	II	II	Fair.
0 0412 0·0029	0·0556 0·0039	....	35·0 2·45	None	0·112 0 008	0·392 0·027	27·0	I	I	Good.
0·3045 0·0213	0·0329 0·0023	11·9671 0·8377	148·0 10·36	None.	1·440 0·101	2·900 0·203	148	III	IV	Impure.
0·1646 0·0115	0·0966 0·006·	15·9095 1·1137	134·0 9·38	None.	0·800 0·056	1·876 0·1316	108	III	III	Impure.
0·1481 0·0104	0·0329 0·0023	7·9671 0 5577	68·0 4·76	None.....	0·464 0 032	0 880 0 062	69·5	III	II	Impure.
0·0987 0·0069	0 0246 0·0017	5·6754 0 3973	61·0 4·27	None.....	0·728 0 051	1·336 0·094	72·5	II	II	Of doubtful purity
0·1333 0·009s	0·4823 0 0338	0 8177 0·0572	71·0 4·97	Doubtful traces.	1·468 0·103	2·200 0·154	111	III	IV	Impure.
0 0658 0·0046	0·0164 0·0011	0·1336 0·0091	3·0 0·21	None.....	0·168 0·012	0·440 0·031	17	I	I	Good.
0·1317 0·0092	0 1975 0 0138	8·8025 0·6162	74·0 5·18	None.....	0·776 0·054	2·720 0·190	97·5	III	IV	Impure.
0·0164 0·0011	0·0905 0·0063	0·1095 0 0077	66 0 4 62	None.....	0·104 0 007	0·232 0·016	23·5	I	I	Good.
0·0740 0 0052	0·0082 0·0006	2·9918 0·2094	14·0 0·98	None.....	0·180 0 013	0 296 0·021	26·5	II	I	Fair.
0·1300 0·0091	0·0115 0·0008	9·4885 0·6642	116·0 8·12	None	0·360 0 025	1·096 0·077	68 5	III	II	Impure.

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WELL WATERS—

Serial Number.	Departmental Number and Designation.	Date of Collection.	Source.	Physical Character.	Total Solids. Dry at 100° C.	Ignited.	Loss.	Phenomena on Ignition.
26	165. Ont.	Mar. 28.	A well at the Central School, Berlin, Ont.	Color light brown; some turbidity.	396 27·72	276 19 32	120 8·4	Slight blackening.
27	168. Ont.	Mar. 30.	A well on Norwich Street, Guelph, Ont.	Dark straw color.	560 39·2	300 21·0	260 18·2	Blackened .....
28	5788.....	Apr. 18.	"City Well," Brandon, N. W. T.	Fairly clear; pale straw color.	572 40·04	352 24·64	220 15·4	No blackening...
29	5789	Apr. 18.	Well, corner Princess St. and 5th Avenue, Brandon.	Some turbidity; very brown color.	424 29·68	320 22·4	104 7·28	Slight blackening.
30	5790.....	Apl. 18.	Well opposite Public School, Brandon.	Very turbid; light straw color.	672 47·04	456 31 9	216 15·12	Slight blackening.
31	5791.....	Apr. 18.	Well at Grand View Hotel, Brandon.	Turbid; light straw color.	2058 144 06	1616 113·12	442 30 94	Slight blackening.
32	.....	May 1...	Well at Dr. Bernardo's "House," Peterboro', Ont.	Clear; nearly colorless.	232 16·24	132 9·24	100 7·0	No blackening..
33	5801.....	May 8...	Public well, corner Louise and James Streets, Winnipeg.	Clear; nearly colorless.	1312 91·84	1136 79·5	176 12·32	No blackening...
34	.....	.....	An artesian well at Goderich, Ont.	Clear and colorless.	552 38·6	404 28·3	148 10·36	No blackening...

UNCLASSED WATERS

1	1. N.S..	Feb. 10.	Long Lake, near Halifax, N.S.	Clear; distinctly brown color.	40 2·8	16 1·12	26 1·82	Scintillation and slight blackening.
2	2. N.S...	Feb. 10.	Lower Chain Lake, 3½ miles from Halifax.	.....	12 0·84	4 0·28	8 0·56	Scintillation, indicating particles of carbonaceous matter.
3	4. N.S.	Feb. 11.	Tap at 60 Bedford Row, Halifax—"Lower Service Supply."	.....	24 1·68	4 0·28	20 1·4	Decided blackening.

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Concluded.

Nitrogen.			Chlorine in Chlorides.	Phosphates.	Oxygen, consumed by Organic Matter at 80° Fahr.		Valuation.	A.	B.	Remarks.
As Albuminoid Ammonia.	As Free and Saline Ammonia.	As Nitrates and Nitrites.			15 Minutes.	4 Hours				
0·1003	0·0115	3·2385	9·0	None	0·720	1·960	61·5	II	III	Of questionable purity.
0·0070	0·0008	0·2267	0·63		0·050	0·137				
0·4806	1·5637	8·3363	40·0	None	2·860	7·200	248·5	III	IV	Very impure. Much green vegetable matter developed itself on standing.
0·0336	0·1095	0 5835	2·8		0·200	0·504				
0·1069	0·0576	5·4424	21·0	None	0·256	0·604	43·5	II	II	Fair.
0·0075	0·0040	0·3810	1·47		0 018	0·042				
0·1810	0 9464	1·1536	4·0	None	2·412	5·420	168	III	IV	Impure.
0·0127	0 0662	0·0808	0·28		0·169	0·379				
0·1399	0·0164	0·3836	2·5	None	1·016	2·056	76	III	IV	Impure.
0 0098	0·0011	0·0269	0 175		0·071	0·144				
0·1069	0 0658	0 2842	36·0	None	0 504	1·116	74	II	II	Of questionable purity.
0·0075	0·0046	0 0199	2·52		0·035	0 078				
0·0164	0·0329	3·4671	8·0	None	0·096	0·320	15	I	I	Good.
0 0011	0 0023	0·2447	0·56		0·007	0·022				
0·0800	0·1400	0 2600	330·0	None	0·076	0·244	88	II	I	Solids, especially chlorides, are very high, but probably harmless. Is fairly free from organic impurity.
0·0056	0 0098	0·0182	23·1		0·005	0 017				
0·0600	0·0900	0 0100	10·0	None	0·160	1·600	32	I	III	Good.
0·0042	0·0063	0·0007	0·7		0 011	0 112				

First line of Figures, *parts per Million.*
Second line of Figures, *grains per Gallon.*

0·1810	0·0543	0·2457	8·0	None	2·832	5·000	151	III	IV	Of very doubtful quality.
0 0127	0·0038	0·0172	0 56		0·198	0 350				
0·1333	0·0493	0·2007	8·0	None	1·744	3 080	93 5+	III	II	Fair.
0·0093	0 0035	0·0140	0·56		0·122	0·216				
0·1810	0·0000	.....	5·0	None	3 072	5·200	156+	III	IV	Impure.
0·0127			0·35		0 215	0·364				

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Serial Number.	Departmental Number and Designation.	Date of Collection.	Source.	Physical Character.	Total Solids.			Phenomena on Ignition.
					Dry at 100° C.	Ignited.	Loss.	
4	8. N.S.	Feb. 15.	Pictou, N.S.; a reservoir fed by a spring found at a great depth.		152 10·64	108 7·56	44 3·08	Slight charring.
5	15. N.S.	Feb. 16.	New Glasgow; from a tap in town.	Somewhat turbid; straw color.	60 4·2	32 2·24	28 1·96	Blackened.
6	113. Que.	Feb. 16.	Tap at St. Charles' School, Joliette.		40 2 8	36 2·52	4 0·28	Slight blackening.
7	118. Que.	Feb. 18.	Tap on Notre Dame Street, Three Rivers.	Clear; brown color.	56 3·92	24 1·68	32 2·24	Blackened
8	25. N. B.	Feb. 25.	Lake Latimer, intended source of supply for St. John, N.B.	Clear; dark straw color.	48 3·36	12 0·84	36 2·52	Blackened.
9	28. N. B.	Feb. 27.	Tap in City of St. John, N.B.	Clear; brown color.	56 3·92	16 1·12	40 2·8	Distinct blackening.
10	140. Que.	Mar. 2.	Tap at Victoria Hotel, Lévis, Que.	Clear; very light brown tint.	240 16·8	168 11·76	72 5·04	Slight blackening.
11	37. N. B.	Mar. 5.	Tap in Moncton, N.B.; source, the reservoir.					
12	146. Que.	Mar. 8.	A tap in house of Hon. L. Beaubien, Outremont.	Clear; light straw color.	208 14·56	144 10·08	64 4·48	Scarcely blackened.
13	41. N. B.	Mar. 7.	Chatham; spring water brought to town by pipes.	Clear; pale straw color.	52 3 64	32 2·24	20 1·4	No blackening.
14	50. Ont.	Mar. 16.	A tap in Brockville, Ont.	Clear; nearly colorless.	136 9·52	76 5·32	60 4·2	Slight blackening.
15	55. Ont.	Mar. 17.	A tap in Kingston, Ont.	Slight turbidity; light straw color.	120 8·4	72 5·04	48 3·36	Very slight blackening.
16	57. Ont.	Mar. 19.	A tap in Belleville, Ont.	Slightly turbid; yellow color.	140 9·8	72 5·04	68 4·76	Blackened.
17	150. Ont.	Mar. 19.	Tap at Victoria Avenue School, Hamilton, Ont.	Clear; nearly colorless.	164 11·48	48 3·36	116 8·12	Slight blackening.
18	154. Ont.	Mar. 22.	Pond, near pump of the London Water Works.	Clear; nearly colorless.	256 17·92	192 13 44	64 4·48	No blackening.

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WATERS—*Continued.*

Nitrogen.			Chlorine in Chlorides.	Phosphates.	Oxygen, consumed by Organic Matter at 80° Fahr.		Valuation.	A.	B.	Remarks.
As Albuminoid Ammonia.	As Free and Saline Ammonia.	As Nitrates and Nitrites.			15 Minutes.	4 Hours				
0·0828	0·1069	....	9·9	None	0·224	0·400	23·5+	II	I	Good.
0·0058	0·0075		0·63		0·016	0 028				
0·0675	0·0000	0·6000	5·0	None	1·048	2·440	64·5	I	II	Good.
0 0047		0·0420	0·35		0·073	0·171				
0·0691	0·0016	0·1984	1·0	None	1·440	2·968	75·5+	II	II	Fairly good.
0·0048	0 0001	0·0139	0·07		0·101	0·208				
0·0576	0·0033	0·1467	1·5	None	2·612	4·456	128	I	IV	Contains too much vegetable matter, but is not necessarily injurious to health
0 0040	0·0002	0·0103	0·105		0·183	0 312				
0·1563	0·2255	0·0745	5·0	None	1·960	4·904	123	III	IV	Impure.
0·0109	0·0158	0·0052	0·35		0·137	0·343				
0·0905	0·0329	0·2671	3·0	None	1·864	4·032	104·5	II	IV	Of doubtful purity.
0 0063	0·0023	0·0187	0·21		0·130	0·282				
0·1316	0 0658	3 6842	26·0	None	0·880	1·932	69	III	II	Of doubtful purity.
0·0092	0·0046	0·2579	1·82		0·062	0·135				
0·2255	0·0740	....	3·0	....	5·436	10·444	275·+	III	IV	Impure.
0·0158	0 0052		0 21		0·381	0·731				
0·0329	0·0493	1·5507	2·0	None	0·120	0·220	14·5	I	I	Good.
0·0023	0·0035	0·1085	0·14		0·008	0·015				
0·0247	0·0329	....	6·5	None	0·268	0·360	17·5	I	I	Good.
0 0017	0·0023		0·46		0·019	0·025				
0·0493	0·0247	0·1453	3·0	None	0·276	0·612	21·5	I	I	Good.
0 0035	0 0017	0·0102	0·21		0 019	0·043				
0·1000	0·0503	0·1000	2·5	None	0·360	0·680	31·0	II	I	Good.
0·0070	0·005	0·0070	0·175		0 025	0·048				
0·1069	0 0757	0·1743	1·0	None	1·420	3 040	85·0	II	III	Fair.
0·0075	0 0053	0·0122	0 07		0·099	0·213				
0·0576	0 0279	0·2221	5·0	None	0·120	0·440	16·5	I	I	Good.
0·0040	0·0020	0·0155	0·35		0·008	0·031				
0 0411	0·0115	1·2885	1·5	None	0·040	0·232	11·15	I	I	Good.
0·0029	0·0008	0 0902	0·105		0·003	0·016				

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Serial Number.	Departmental Number and Designation.	Date of Collection.	Source.	Physical Character.	Total Solids.			
					Dry at 100° C.	Ignited.	Loss.	Phenomena on Ignition.
19	156. Ont.	Mar. 23..	Tap in the Military School, London, Ont.	Clear; nearly colorless.	256 17 92	184 12 88	72 5·04	Slight blackening.
20	166. Ont.	Mar. 28..	Tap at Central School, Guelph, Ont.	Slight turbidity; light straw color.	172 12·04	104 7·28	68 4·76	Blackened.....

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WATERS—*Concluded.*

Nitrogen.			Chlorine in Chlorides.	Phosphates.	Oxygen, consumed by Organic Matter at 80° Fahr.		Valuation.	A.	B.	Remarks.
As Albuminiod Ammonia.	As Free and Saline Ammonia.	As Nitrates and Nitrites.			15 Minutes.	4 Hours				
0·0527	0 0066	0·7934	0·0	None	0 232	1·860	28·5	I	II	Good.
0·0037	0·0005	0 0555			0 016	0·130				
0·1103	0·0247	1·1753	2·0	None	1·240	2·800	78·0	II	II	Fair.
0·0077	0 0017	0·0823	0·14		0·087	0·196				

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LABORATORY OF THE INLAND REVENUE DEPARTMENT,
319 SPARK ST., OTTAWA, 20th June, 1888.

THOS. MACFARLANE, Esq., F.R.S.C.,
Chief Analyst, &c., &c.

SIR,—I have the honor to submit to you herewith a report concerning the samples of drinking water upon which I have been at work during the past three months.

The total number of samples analysed is seventy-five, made up as follows:—

Samples of	river water	21
do	well water	34
do	lake, spring, &c	20
	Total	75

In some cases the analysis is incomplete. This arises in a few instances from the fact that the sample concerned is nearly identical with a preceding one; but generally results from my having been furnished with too small a quantity to permit of a full analysis. I may add that, as a rule, duplicate estimations have been made, and the numbers given in the subjoined tables are the means of *closely* concordant duplicate determinations.

In addition to the noting of the physical characters, color, clearness, etc., I have determined the total solid matter dry at 100° C (212° Fahr.) and on ignition; the chlorine in chlorides, the free and saline ammonia, the albuminoid ammonia, the nitrates and nitrites, the phosphates, and the oxygen consumed by the organic matter present, at 80° Fahr., both in 15 minutes and in 4 hours.

COLOR.—This has been observed in a column of the water, about 24 inches long contained in a tube of colorless glass.

It is impossible to express in words the nice distinctions of tint marking the color of water seen in this way. The terms brown, light brown, straw color, etc., necessarily admit of a certain latitude in their application by different observers.

That no fixed scale has been adopted by analysts for the purpose of registering absolutely the color of water is, I believe, due to the assumption that nothing of any great value can be ascertained as to the quality of a sample of water from an observation of its color only. While, however, the absence of any dark tint is no proof of the purity of water, the presence of color in any dark shade is proof of impurity. It is true that the impurity may be of a comparatively harmless character, as in the case of peaty waters, but it will be seen by reference to the subjoined tables that the instances in which a water of marked color has shown itself to be good on further examination are very few.

It is, however, in the daily or weekly observation of *water from the same source* that it becomes desirable to express, with great nicety, the changes of color that occur. I am of opinion that changes for better or worse in the character of the same water supplies, and especially as regards vegetable impurity, may be very trustworthily discovered by accurately observing changes of color alone. Messrs. Crookes, Odling and Tidy in their report on the London water Supply for 1881, describe a color meter, a modification of which I hope to use in my next examination of potable waters.

TOTAL SOLIDS.—The column "*Total Solids*," gives solids in suspension as well as in solution, except in the case of the Assiniboine river water (No. 5,800) which was allowed to clear by subsidence for some days before being proceeded with. In this case the solids in suspension were separately estimated. I have filled in the column "Loss on Ignition" rather as a check upon the numbers given in the preceding columns than as attaching any importance to its indications.

ALBUMINOID AMMONIA.—The nitrogen existing in such combinations as give rise to free ammonia on boiling with akaline permanganate, is, I believe, one of the most important estimations that can be made for the purpose of ascertaining the fitness of

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a water for drinking purposes. It is true that the specific character of the nitrogenous matter present is not thereby determined; but since this nitrogen represents organic matter undergoing decomposition, it is very evident that behind a very narrow limit, its presence must condemn a sample of water for food purposes. This is particularly important, since it is the presence of nitrogen which specially indicates organic pollution from animal resources, although it must not be forgotten that purely vegetable matters yield a certain amount of nitrogen to water. If we accept the number adopted by Wanklyn, Chapman and Smith (the authors of the process), namely 0·066 parts nitrogen per million as the limit, the only samples analyzed which would rank as *really good drinking water* are the following:—

Among river waters, Nos. 2, 5 and 6, *i.e.* the St. Lawrence water as supplied to Montreal; 16, the Richelieu near St. John's. Among well waters: Nos. 1, 3, 4, 5, 8, 9, 15, 21, 23, 32 and 34. Among those unclassed; Nos. 7, 12, 13, 14, 17, 18, and 19. And it is worthy of remark that with a single exception, these waters are good when judged on the basis of the total results of analysis.

In column A in the tables, I have arranged the samples on the basis of this estimation alone.

Class I.—Less that 0·066 nitrogen (as albuminoid ammonia) per million.
Class II.—Less than 0·120 nitrogen per million.
Class III.—More than 0·120 nitrogen per million.

Inorganic Nitrogen.—Since the whole of the nitrogen present in a sample of any naturally occurring water has an organic origin, that portion of such nitrogen which is found in the forms of ammonia (free and saline), and nitrous and nitric acids represent past organic impurity, or nitrogenous organic matter which has, possibly since it found its way into the water, undergone decomposition with the formation of these, in themselves, harmless compounds of nitrogen. While, however, it is true that efficient aeration will greatly purify a sample which would otherwise be unfit for food, it is dangerous to trust to this natural process of purification in the case of well water, or in the case of rivers from which water is taken at no great distance from the source of contamination. Indeed it will be seen on reference to the tabulated statement that where inorganic nitrogen exceeds 4 or 5 parts per million—indicating energetic destruction of animal impurity—the nitrogen remaining and estimated as albuminoid ammonia is still in too large a quantity to make the water safe as a food.

The efficiency of natural purification by oxidation, &c., is found to be most marked in the case of deep well waters and spring waters (Rivers' Pollution Commission of Great Britain, Sixth Report, 1874), and it is in these that we find the largest proportion of nitrogen in inorganic compounds. Professors Frankland and Morton in the Report just cited, calculate the past organic impurity and express it in terms of London sewage, taken to contain 100 parts nitrogen per million of sewage.

The quantity 0·32 is subtracted from the total inorganic nitrogen found, as representing that present in averagely pure water, and the sewage contamination is calculated from the remainder. "Chemical analysis cannot discover the noxious "ingredient or ingredients in water polluted by infected sewage or animal excreta; "and as it cannot thus distinguish between infected and non-infected sewage the "only perfectly safe course is to avoid altogether the use, for domestic purposes, of "water which has been polluted with excrementitious matters. Nevertheless, as it "is very difficult in some localities to obtain water which has not been more or less "polluted by excrementitious matters, it is desirable to classify such previously con-"taminated drinking waters into:—

"Reasonably safe water,
"Suspicious or doubtful water,
"Dangerous water.

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"REASONABLY SAFE WATER.—We consider that water, although it exhibits pre-
"vious sewage or animal contamination, may be regarded as reasonably safe where
"it is derived either from deep wells (say 100 feet deep) or from deep seated
"springs; provided that all contaminated surface water has been rigidly excluded
"from the well or spring; and that the proportion of previous animal contamination
"does not exceed 100,000 parts in one million parts of water.

"SUSPICIOUS OR DOUBTFUL WATER, is first, river or flowing water which exhi-
"bits any proportion, however small, of previous sewage or animal contamination;
"and second, well or spring water containing from 100,000 to 200,000 parts of pre-
"vious contamination per million.

"DANGEROUS WATER, is first, river or flowing water which exhibits more than
"200,000 parts of previous animal contamination per million; second, river or flow-
"ing water containing less than 200,000 parts of previous contamination in a million
"but which is known from an actual inspection of the river or stream, to receive
"sewage either discharged into it directly or mingling with it as surface drainage;
"third, as the risk attending the use of all previously contaminated water increases
"in direct proportion to the amount of such contamination, well or deep seated
"spring water exhibiting more than 200,000 parts of previous contamination per
"million must be regarded as dangerous." (River Pollution Commissioners, sixth report—pp. 17 and 18.)

The following arrangement shows how the samples analysed by me would take rank according to this scheme, assuming all the wells to be *deep wells*, which is certainly not the case with some of them.

WELL WATERS.

Serial number.	Previous Sewage contamination.	Classification.
4	13,300	Reasonably Safe.
5	42,800	do
6	5,300	do
7	38,800	do
11	66,800	do
13	14,800	do
14	51,800	do
16	116,800	Suspicious Water.
17	156,800	do
18	76,800	Reasonably Safe.
19	53,800	do
20	9,800	do
21	0	do
22	86,800	do
23	0	do
24	26,800	do
25	91,800	Reasonably Safe.
26	29,300	do
27	95,800	do
28	51,800	do
29	17,800	do
30	800	do
31	300	do
32	31,800	do
33	800	do
34	0	do

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RIVER WATERS.

Serial number.	Previous Sewage contamination.	Classification.
2	0	
3	0	
5	0	
6	0	
7	0	
8	0	
9	3,000	Suspicious Water
14	0	
17	3,000	Suspicious Water
18	0	
19	8,000	Suspicious Water
20	93,000	do
21	0	

UNCLASSED WATERS.

Serial number	Previous Sewage contamination
1	0
2	0
5	2,800
6	0
7	0
8	0
9	0
10	34,300
12	12,800
14	0
15	0
16	0
17	0
18	9,800
19	4,800
20	8,800

It is to be regretted that so long time intervened between the collection of the samples and the completion of the analysis, as was the case with a good many of the samples reported on. The oxidation of organic matter at the expense of the oxygen in nitrates is doubtless the cause in some cases at least, on the small quantity of nitrates found. I may add that the nitrogen in nitrates and nitrites was estimated as ammonia, reduction being effected by the zinc copper process.

OXYGEN CONSUMED.—With reference to the value of the indications obtained by treating the water in a closed vessel at 80° Fah. with acid permanganate, I shall quote Dr. Dupré:—

"A water (I mean a water naturally met with, not one artifically made with "substances never found in water) which does not absorb any appreciable proportion "of oxygen from permanganate, may be pronounced a pure water; and no other "purely chemical test, so far kown, will indicate anything else." (Analyst, 1885, p. 120.)—With this statement I am fully in accord, and I think that the results of my work establish so far as they go, its accuracy. No well water consuming less than 0·5 part oxygen per million is condemned as the result of any other feature in its analysis, if I except the case of number 33, where the total solids are objectionably high, and the chlorine indication is very abnormal; though doubtless this can be explained by the character of the soil through which the well is sunk, or that travers-

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ed by the springs that feed it. No river water or spring water is condemned which shows less than 1 part per million of oxygen consumed.

Drs. Frankland and Tidy (Treatise on Water Analysis) have suggested the following classification of waters based on the consumption of oxygen:—

SECTION I.—Upland surface waters.

CLASS I.—*Water of great organic purity*, absorbing not more than 1 part oxygen per million.

CLASS II.—*Water of medium purity*, absorbing 3 parts per million.

CLASS III.—*Water of doubtful purity*, absorbing 3 to 4 parts per million.

CLASS IV.—*Impure water*, absorbing more than 4 parts per million.

SECTION II.—Water other than upland surface.

CLASS I.
" II.
" III.
" IV.
} Absorbing respectively not more than half the quantities of oxygen stated above.

In the column headed B, I have classified according to the above scheme the various waters analyzed, and it will be easy to trace a relation between the results of this estimation and the total result of the analysis.

In order to obtain a numerical expression for the total sum of the results of analysis, I have adopted a modification of Wigner's scale, as follows:—

Solids, (dry at 100° C.) 70 parts per million..... =1.
Nitrogen—As albuminoid ammonia, 0·01 parts per million..... =1.
As free and saline ammonia, 0·05 " " ..... =1.
As nitrates and nitrites, 1·00 " " ..... =1.
Oxygen consumed at 80° Fah.—
In 15 minutes, 0 03 parts per million..... =1.
In 4 hours 0·15 " " ..... =1.
Chlorine, in Chlorides, 7·00 " " ..... =1.

Phosphates, traces, 0 to 4.
Color..... 0 to 4.
Clearness..... 0 to 4.

It will be seen that, according to this plan, the larger the number expressing valuation, the worse is the sample of water.

In pronouncing upon the quality of a given sample, I have not, of course, been rigidly bound by this valuation, but it will be seen that I have, in the main, followed its indications.

I have the honor to be, Sir,
Your obedient servant,
A. McGILL.

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It will be observed that in pronouncing a judgment on the waters under examination Mr. McGill has chiefly been guided by English authorities. His results will, however, be useful in enabling any one to compare the quality of these waters with the data given by other European authorities or by those of the United States. Neither do his conclusions prevent a comparison being made relatively of the waters which have been examined, in furtherance of one of the objects of the investigation.

If we place together the analytical results of the samples of waters taken from taps in our chief cities, and in the order of the valuation adopted by Mr. McGill, the following is the result:—

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COMPARISON OF THE ANALYSES

Date of Collection.	Departmental No.	Name of City.	Sources of Supply.	Total Parts per		
				Dry at 100° C.	Ignited.	Loss.
1888.						
Mar. 19	150. Ont.	Hamilton	Burlington Bay	164	48	116
Feb. 9	2. Montreal.	St. Cunegonde	River St. Lawrence	132	52	80
Feb. 11	7. Montreal.	Montreal	River St. Lawrence			
Mar. 17	50. Ont.	Brockville	River St. Lawrence	136	76	60
Mar. 23	156. Ont.	London, Ont.	River Thames	256	184	72
Mar. 17	55. Ont.	Kingston	Lake Ontario	120	72	48
Mar. 6	145. Que.	St. John's, Que.	River Richelieu	68	32	36
Mar. 6	143. Que.	St. John's, Que.	River Richelieu	60	40	20
Feb. 16	15. N.S.	New Glasgow.	East River	60	32	28
Mar. 2	140. Que.	Lévis	From G. T. R. tank on hill	240	168	72
Feb. 16	113. Que.	Joliette, Que.	River L'Assomption	40	36	4
Mar. 28	166. Ont.	Guelph	River Speed	172	104	68
Mar. 19	57. Ont.	Belleville	Bay of Quinté	140	72	68
Feb. 27	28. N.B.	St. John, N.B.	Little River	56	16	40
Feb. 18	118. Que.	Three Rivers, Qué.	River St. Maurice	56	24	32
May 3		Ottawa	From tap at Laboratory			
Feb. 11	4. N.S.	Halifax, N.S.	Long Lake	4	4	20
Feb. 27	1. Ottawa.	Ottawa	Mouth of supply pipe, Ottawa River	52	16	36
Mar. 5	37. N.S.	Moncton	Reservoir supplied by creeks.			

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OF CITY WATERS.

Solids.	Nitrogen.			Chlorine in Chlorides.	Phosphates.	Oxygen consumed by Organic Matter at 80° Fahr.		Valuation.
million.	Parts per million.							
Phenomena on Ignition.	As Albuminoid Ammonia.	As Free and Saline Ammonia.	As Nitrates and Nitrites.			15 Minutes.	4 Hours.	
				p. mill.				
Slight blackening	0·0576	0·0279	0·2221	5·0	None	0·120	0·440	16
Slight charring	0·0658	0·0247	0·0753	3	None	0·120	0·480	17
	0·0658	0·0082	0·1418	3	None	0·184	0·400	
Slight blackening	0·0493	0·0247	0·1418	3·0	None	0·276	0·612	21
Slight blackening	0·0527	0·0066	0·7934	0·0	None	0·232	1·960	28
Very slight blackening	0·1000	0·0500	0·1000	2·5	None	0·360	0·680	31
Blackened	0·1135	0·0132	0·1368	9·0	None	0·740	1·668	49
Blackened	0·0790	0·0033	0·3967	9·0	None	0·800	1·600	49·5
Blackened	0·0675	0·0000	0·6000	5	None	1·048	2·440	64
Slight blackening	0·1316	0·0658	3·6842	26·0	None	0·880	1·932	69
Slight blackening	0·0691	0·0016	0·1984	1	None	1·440	2·968	75
Blackened	0·1103	0·0247	1·1753	2·0	None	1·240	2·800	78
Blackened	0·1069	0·0757	0·1743	1	None	1·420	3·040	85
Distinct blackening	0·0905	0·2671	0·2671	3	None	1·804	4·032	104
Blackened	0·0576	0·0033	0·1467	1·5	None	2·612	4·456	128
	0·1234	0·0543	0·2457	1·5		2·848	5·208	149
Decided blackening	0·1810	0·000		5	None	3·072	5·200	156
Blackened	0·2748	0·0132		2	None	2·808	5·760	164
	0·2255	0·0740		3·0		5·436	10·444	275

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From this comparison it will be seen that the Ottawa water stands almost at the bottom of the list. This is, of course, mainly owing to the large amount of vegetable organic matter which it contains, but it will also be seen that as regards the organic nitrogen (albuminoid ammonia) present, the amount is four times as much as that of the St. Lawrence water supplied to Montreal. This refers, of course, to the samples taken in winter, leaving out of the comparison the sample of Ottawa tap water taken in May. It would thus appear that of all the samples taken from water artificially supplied to the towns of the Dominion those from Ottawa are among the worst, the impurities found being only exceeded in one case, that of Moncton, N.B.

With regard to contamination from the neighborhood of Rochester Creek it was not to be expected that any definite results would be obtained from the analysis of samples taken in mid-winter. Still it is worthy of note that the water obtained immediately below the mouth of Rochester Creek has the same valuation as that taken at the mouth of the clear water pipe. Indeed the former contains a little less organic nitrogen. Both are, however, inferior to the sample obtained near Pier No. 3 of the C. P. R. bridge, the point to which it was proposed to extend the clear water pipe. The difference in quality is, however, so slight that the advisability of such continuation may be well doubted. None of the samples of Ottawa water contain such an amount or organic nitrogen as to exceed 0·3 parts per million, which is the maximum limit fixed by the English Commission for river water when used for drinking purposes. (VI Report, p. 426). It is the large amount of organic matter of vegetable origin which does more to lower its character. According to Doctor Ferdinand Fischer, a high German authority on the subject, such waters from forest or boggy sources may still be used for drinking even when 20 mgr. of Permanganate are required for the oxidation of the organic matter in 1 Litre. This is equal to 5 of oxygen, a limit which is exceeded in the cases of Ottawa and Moncton.

There is abundant matter for further comment in Mr. McGill's report on the well and other waters. But parties locally interested in these will each be able to draw from the several analyses, after comparing them with others, tolerably correct conclusions.

THOMAS MACFARLANE, F.R.S.C.,
Chief Analyst.

30th June, 1888.

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Bulletin No. 6.

Cheese.

The subject of cheese adulteration has recently been attracting some attention in Great Britain, and the Government has been questioned about it in the House of Commons. On the 13th of March last, Mr. W. McLaren asked the Chancellor of the Duchy of Lancaster whether his attention had been called to the large admixture of animal fat in the manufacture of American cheese which entailed the latter to be sold in England as pure cheese, at such prices as were injurious to the manufacture of pure cheese; and whether he would instruct our American Consuls to enquire into and report upon the extent of this admixture, in order to give some reliable facts about it to the British public. Mr. W. Long said in answer that the foreign office had been asked to obtain reports from Consular Officers in the United States, as to the prevalence of this adulteration in the manufacture of cheese. Further on the 20th March, Captain Cotton asked the Secretary to the Local Government Board, whether in reference to his statement that inquiries are being made of the American Consuls respecting the alleged adulteration of cheese imported from that country, his attention had been directed also to the increasing quantity of imported cheese from Canada; and, in view of the adulteration thereof, the Government will communicate with the Agent General of the Dominion as well as with the American Consul. Mr. Long said in answer:—The Agricultural Department has requested the Colonial Office to obtain from Canada similar information to that which, as I stated last Tuesday, our Consular officers in the United States have been instructed to furnish as to the practice of using animal fat in the manufacture of cheese.

In due course the question thus raised was brought before the Canadian Government and referred to the Minister of Inland Revenue, who requested the undersigned to report on the subject. The report was duly furnished to the Commissioner of Inland Revenue, who authorized the publication of its subject matter in the present Bulletin for the information of the public.

A reference to the Department Reports on the adulteration of Food shows that it was not until the year ending June, 1885, that any samples of cheese were collected for analysis. Then nineteen samples were examined and no adulteration reported (see supplement No. III to the report of the Department of Inland Revenue, 1885, p. 5). In 1887 twenty samples were taken and analyzed by the District Analysts who found no admixture of foreign fat.

Since the receipt of instructions from the Commissioner of Inland Revenue to proceed with the investigation, the collection of 114 samples of cheese was ordered in the various Inland Revenue Districts of the Dominion. Up to this date reports have been received regarding fifty-six of these samples from the District Analysts, and in every case the sample has been certified to be free from admixture of foreign fat, forty-eight of these samples, of which duplicates had been furnished to the Department, were analysed in this laboratory with the results given in the following tables, in which for the purpose of comparison there have been inserted several analyses of butter and of filled or lard cheese from Chicago.

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Date of Collection.	No.	Description.	Vendor.	Manufacturer.	Results of Analysis.				Description of Fat Extracted.		Analyst.
					Water.	Butter Fat.	Salt and Soluble Matter.	Caseine.	Color.	C. C. Decinormal Ammonia required in Reichert's test.	
1888.											
May 9	7155	Cheese	J. F. Layton, Amherst, N.S.	Not known	30·36 29 60	32 42 33·10	5·94 6·14	31·28 31·16	Yellow	13·20	F. X. Lefebvre.
do 10	7160	do	Daniel Gunn, Truro, N.S.....	do	26·72 27·56	36 92 36·84	10·66 9·14	25·70 26·46	Brown	13·42	T. Macfarlane.
do 11	7163	do	J. D. Stewart, 138 Grafton Street, Halifax, N.S.	do	18·98 18·10	40 56 41·14	9·60 8·46	30·86 32·30	do	12 40	F. X. Lefebvre.
do 12	7165	do	C. Graham & Co., 25 Sackville Street, Halifax, N.S.	do	23·96 26·18	37·26 36·62	6·96 6 88	31·82 30·32	Dark brown	13·20	T. Macfarlane.
do 14	7171	do	E. C. Shand, Water Street, Windsor, N.S.	do	30·21 30·40	30·89 31 02	7·76 8·38	31·14 30·20	Yellow.....	11·80	F. X Lefebvre.
do 16	7177	do	W. F. Turnbull, Digby, N.S.	do	24·38 24·70	38·56 38 64	9·10 10·28	27·96 26·38	Brown	14·03	T. Macfarlane.
do 16	7179	do	Wm. Malcolm, Main Street, Annapolis, N.S.	do	25·98 25·86	33·06 32·54	7·18 6 80	33·78 34·80	Yellow	13·30	F. X Lefebvre.
do 18	7183	do	A.C. Wilson, 123 QueenStreet, St John, N.B.	do	33·70 33 30	31·70 32·92	8 46 7·78	26·14 26·00	Pale yellow.	11·99	T. Macfarlane.
do 18	7185	do	John McCann, Indiantown, St. John, N.B.	do	23·02 22·36	34·24 34·64	14·24 14·72	28·50 28 28	Dark yellow	12·48	do
do 19	7190	do	George Robertson & Co., 50 King Street, St John, N.B.	do	28 71 29·16	33·28 32 84	12 68 12·44	25·30 25·56	do ...	14·52	do
do 23	7194	do	Murchie Bros., St. Stephens, N.B.	do	31 96 32·00	28 80 29·32	11·54 11 86	27·70 26 82	Light yellow	11·66	do

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do	23	7195	do	Inches & Rimmer, St. Stephens, N.B.	Jacksontown Cheese Factory, near Woodstock, N.B.	33·78 33·12	28·06 28·74	8·62 8·90	29·52 29·24	do	13·97	do
do	25	5908	do	S. L. Morrison, Queen Street Fredericton, N.B.	Not known	33·21 33·70	29·66 29·60	11·66 11·18	25·44 25·52	Lightyellow	14·63	do
do	29	5912	do	G. W. Slipp, Wall Street, Woodstock, N.B.	Avondale Cheese Factory, Woodstock.	36·44 37·70	31·90 31·64	10·32 11·16	21·34 19·50	do	14·08	do
do	17	7302	do	J. Turcot, Quebec	Not known	32·22 32·02	30·80 30·96	8·38 8·74	28·60 28·28	Brown	10·63	F. X. Lefebvre.
do	17	7303	do	Paquet & Potvin, Quebec	do	30 56 30·64	31·76 31·70	9·54 9·96	28·14 27·70	White	13·60	do
do	21	7313	do	E. Bédard, Lévis, Que.	do	38 48 33·48	28·83 29·18	8·18 7·92	29·56 29·42	do	14·50	do
do	21	7319	do	L. H. Begin, 4 Commercial Street, Lévis, Que.	do	29·02 29·08	35·62 35·78	9·56 8·96	25·80 26·18	do	14·00	do
do	21	7322	do	Michel Ladreière, Bienville, Que.	do	30·48 30·54	28·36 28·36	7·54 7·78	33·62 33·32	do	15·6	do
April	23	7281	do	M. L. Hislop, St. John's, Que	do	15·94 15·70	43·72 43·92	25·04 24·74	15·30 15·64	do	13·00	do
do	23	7282	do	Mrs. F. X. Dulude, St. John's, Que.	do	13·14 13·06	46·70 46·80	23·86 25·80	16·30 14·34	do	13·40	do
do	23	7283	do	Payne & Bradford, Granby, Que.	Edward Bradford, Mawcook, Que.	16·64 14·20	42·64 42·94	20·58 18·54	22·14 24·32	Light brown	12·43	T. Macfarlane.
do	23	7284	do	J. Boniss, Granby, Que.	Not known	13·86 13·86	43·56 43·72	16·56 15·74	26·02 26·68	Dark brown.	10·60	F. X. Lefebvre.
May	2	7285	do	E. A. Painchaud, St. Martin's Street, Montreal.	do	19·80 19·60	40·94 40·68	26·74 25·74	12·52 13·98	Brown	13·40	do
do	2	7286	do	P. G. Callahan, Montreal	do	17·48 17·32	41·14 41·10	23·84 24·74	17·54 18·84	do	12·00	do
do	2	7287	do	Wm. McGowan, 337 St. Lawrence Street, Montreal.	At Frelighsburgh, Que.	21·60 20 86	39·28 40·60	21·12 20·14	18·00 18·40	do	12·76	T. Macfarlane.
do	2	7283	do	Jas. D. Adams & Co. St. Lawrence Street, Montreal.	Not known	21·14 21·06	38·72 39·10	19 84 19·12	20·30 20·72	Yellowish	13·20	F. X. Lefebvre.

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Date of Collection.	No.	Description.	Vendor.	Manufacturer.	Results of Analysis.				Description of Fat Extracted.		Analyst.
					Water.	Butter Fat.	Salt and Soluble Matter.	Caseine.	Color.	C. C. Decinormal Ammonia required in Reichert's Test.	
1888.											
do 7	7289	do	P. Desormiers, 602 Dorchester Street, Montreal.	do	{ 20·60 20·42	35·10 35·60	20·74 19·06	23 56 24·92 }	Brown..	12·50	F. X. Lefebvre.
May 7	7290	Cheese..	Joseph Dagenais, 1983 St. Catherine Street, Montreal.	Not known.....	{ 19·86 19·90	39·10 38·56	18·60 18·56	22·44 22·93 }	Brown	12·50	do
do 7	7291	do	Vanier Bros, St. Catherine Street, Montreal.	do	{ 19·96 19·84	40·50 40·10	25·32 20·18	14·22 19·88 }	Yellow.	12·20	do
do 7	7292	do	Thos. Gauthier, Montreal.....	do	{ 20·02 19·78	40·60 40·74	21·46 20·20	17·92 19·28 }	Pale brown	12·00	do
do 10	004	do	H. A. Channell, Stanstead....	—Scott, Bolton, Que	{ 20·76 20·60	35·92 36·00	21·84 23·50	21·48 19 90 }	Brown..	12·3	do
June 28	7360	Cheese curd ...	Wilson & McGinnis, Huntingdon, Que.	Self	{ 38·26 38·23	27·90 27·66	5·61 5·66	28·20 28·40 }	White.	14·08	T. Macfarlane.
do 28	7361	do ...	Macfarlane & McPherson, Huntingdon, Que.	do	{ 39·30 39·28	26·54 25·94	7·16 6·14	27·00 28·64 }	do	14·25	do
do 28	7362	Cheese.....	Macfarlane & McPherson, Clyde Corner, Huntingdon Co., Que.	do	{ 32·96 32·72	30·10 30·46	9·66 9·48	27·23 27·34 }	Brown.....	12·65	do
do 28	7363	Cheese curd...	Wilson & McGinnis, Coffey's Corner, Huntingdon Co, Que.	do	{ 25·40 21·86	33·20 33·58	9·00 9·66	32·40 31·90 }	White....	13·75	do
do 28	7364	do ...	Macfarlane & McPherson, Lee Corner, Huntingdon Co., Que.	do	{ 36·10 36·30	30·06 30·20	6·46 6·76	27·38 26·74 }	do	14·55	do
do 28	7365	Cheese..	Macfarlane & McPherson, Trout River, Huntingdon Co.	do	{ 31·12 31·46	23·36 26·96	10·02 10·28	30·50 31·30 }	do	14·52	do

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do	28	7366	do	Wilson & McGiunis, Trout River, Huntingdon Co.	do	31·66 31·60	27·66 28·36	7·32 7·66	33·36 32·38	do	14·70	F. X. Lefebvre
July	9	7371	Cheese Curd	Bulland & Harvey, Scottsmore, P.Q.	do	40 15 40 21	.....	.....	.....	do	.....	do
do	9	7373	Cheese	C. D. Jewell, Sweetsburg, P.Q.	do	32·48 32·32	29 58 28 42	7 44 6·72	30·50 32 54	Dark brown	12·8	do
do	9	7374	do	W. T. Wilkinson, East Farnham, P. Q.	do	33·29 33 20	29 10 29·60	8·94 9 62	28·68 27 58	Yellow.	14·8	do
do	15	7902	do	Edwin Morrish, Galt Ont	Sheffield Cheese Factory, Ont.	27·98 27·98	27·62 28·04	16 20 18 38	28 20 25 60	Yellowish	12 30	do
do	15	7904	do	W. P. Clay, Galt, Ont	W. P. Walton, Galt	29·36 29 34	28·48 28·30	17 00 16 30	25·16 26 06	White	15·30	do
do	18	7907	do	Jackson & Hallett, Guelph, Ont.	Steiner, New Hamburg.	21·22 23 76	36·09 36 62	19·18 19 42	20·72 20 21	Brown	13 90	do
June	27	5809	do	P. Carey, Jolly, Man	Self	36·76 36 80	24·68 24·54	9 70 11 94	28 86 26 72	White	15 20	do
July	11	5815	do	A. Malcolm, Minnedosa, Man.	do	35 64 35·56	29·62 29 14	8 90 8 02	26 81 27 28	do	15 50	do
do	12	5816	do	G. H. Greata, Shoal Lake, Man.	do	31 50 31·54	33·64 33 00	10·12 9 38	24 34 23 08	Pale yellow.	14 60	do
.....	.....	.....	Filled Cheese.	Charles C. Rice & Co, Chicago.	Not known	43 23 42·80	16·64 15·70	6 84 6·26	33 21 35 24	Brown	2 97	T. Macfarlane.
.....	.....	.....	Butter	Furnished by Thos. Wilson, Montreal.	Delaval separator used in manufacture.	11 64 11·07	83·86 84·46	3·86 3 73	0 64 0 74	White	13·97	do
May	10	7157	do	Black & Co, Prince Street, Truro, N.S.	J. Logan (farmer), Stewiacke, Colchester, N.S.	9·19 8·08	81 67 83·76	7·84 7 34	0·90 0·82	Yellowish	13·97	do
do	23	7192	do	H. C. Hill, St Stephen's, N.B	E. Sawyer (farmer), St. David, N.B.	7 58 7 27	88·47 88·46	3 09 3·07	0 86 1 20	do	14·19	do

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It way be as well to state here the method pursued in these analyses. Each sample was examined in duplicate, 5 grammes being used for each assay, and kneeded up in a certain quantity of asbestos fibre. The weight of the latter being known and also of the tube containing it, the loss sustained by the sample in the waterbath was regarded as water. Both assays, contained in the extraction tubes, were then placed in the Soxhlet apparatus and extracted with Petroleum Ether and afterwards dried. The loss thus sustained is that given under the heading of "Butter-fat." The assays were then washed with warm water containing 1 p.c. of acetic acid and again dried and weighed. This loss was regarded as "Salt and Soluble Matter," and in some cases may include lactose or the soluble substances produced in the fermentation of the Caseine. That part of the cheese remaining as residue among the asbestos in the extraction tube was regarded as "Caseine."

The fat from both assays was obtained by distilling off the Ether, and heating in the waterbath. It was not sufficient in quantity to allow of the determination of its specific gravity, but its contents in volatile fatty acids was ascertained by Reichert's method. The modification of the method pursued was, in the main, that recommended by Mansfeld (Repertorium der Chemiker Zeitung, Jahrgang XII No. 14, p. 120), but decinormal ammonia was used for titrating with rosolic acid as indicator. According to Mansfeld, butter-fats requiring 12·75 c. cm. or over of decinormal alkali to neutralize the volatile fatty acids in 2½ grammes, are undoubtedly genuine; when less than 12·75 c. cm. are used they are characterized as adulterated. Reichert gives 13·97 c. c. as the quantity of decinormal alkali required to saturate the volatile fatty acids from 2·5 grammes pure butteer. When less than 12·5 c. c. are used the butter is to be regarded as adulterated.

Whether these figures are strictly applicable to fats extracted from cheese is doubtful, because it has not yet been ascertained whether, or to what extent, butter-fat undergoes a change in the fermentation or "ripening" of cheese. From some of the figures given in the above table it would appear, that during this process a diminution in the quantity of volatile fatty acids contained in the butter of the cheese does take place. For instance in the case of No. 7361 cheese curd from the factory of Macfarlane & McPherson, Huntingdon, P.Q., the fat from it is richer in volatile fatty acids, than that from ripened cheese obtained at the same factory. Moreover, while the fat from cheese curd has only a slight yellow tint that from ripened cheese is frequently coloured brown, showing that it has no longer the properties of pure butter-fat. Nevertheless it will be observed from the foregoing tables, that only in a very few cases is the amount of volatile fatty acids present less than that mentioned by Mansfeld, as indicating adulteration, and of these it will be seen that their origin is unknown. Many of the samples were simply purchased in shops, and the vendors were unable to state where they were manufactured. It is further to be remembered that some cheese sold in Canada is not of Canadian manufacture. For instance in 1887, 62,878 lbs. of cheese were imported into Canada from the United States and entered for home consumption. With reference to those samples of cheese or cheese curd, collected in Canadian cheese factories, their examination shows that only pure butter-fat enters into their composition, and that nothing approaching in character to "filled cheese," has so far been manufactured or even sold in Canada.

From the above data it will therefore be evident that no admixture of foreign fat whatever takes place in the manufacture of Canadian cheese. At the same time it must be admitted that the nature of the change which takes place during the "ripening" of cheese has not yet been thoroughly investigated, and that this will require to be done before the methods now in use for its analysis can be regarded as entirely satisfactory.

THOMAS MACFARLANE, F.R.S.C,
Chief Analyst.

30th July, 1888.

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